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FIG. 1A

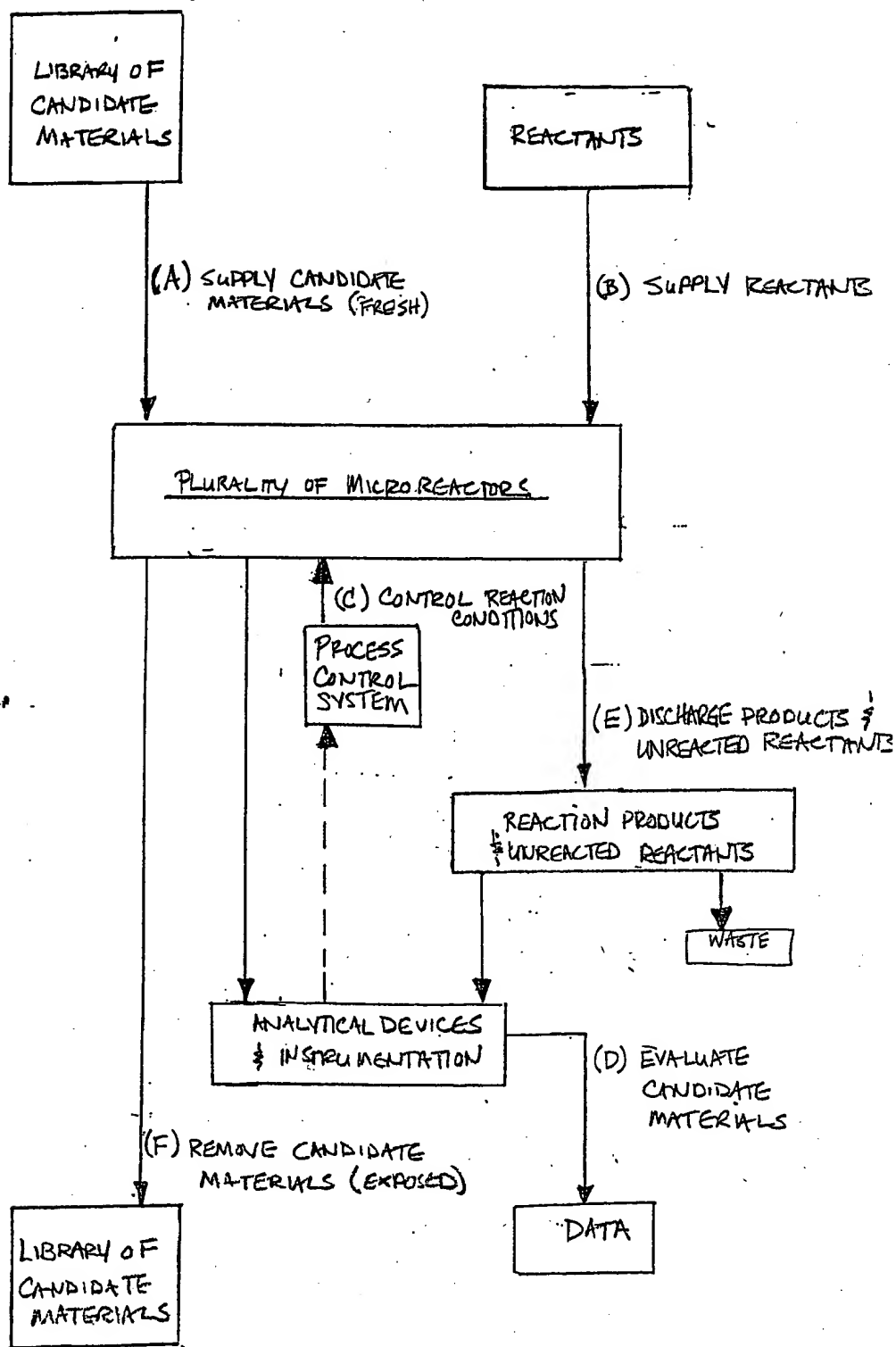
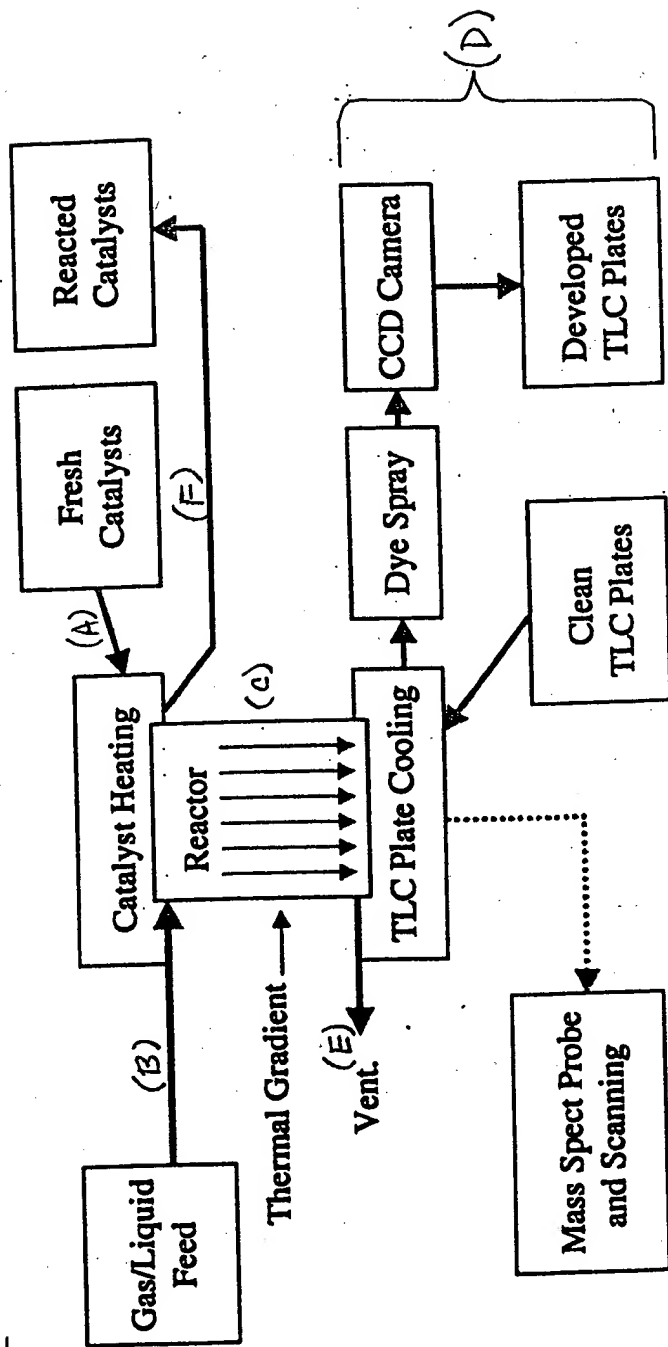


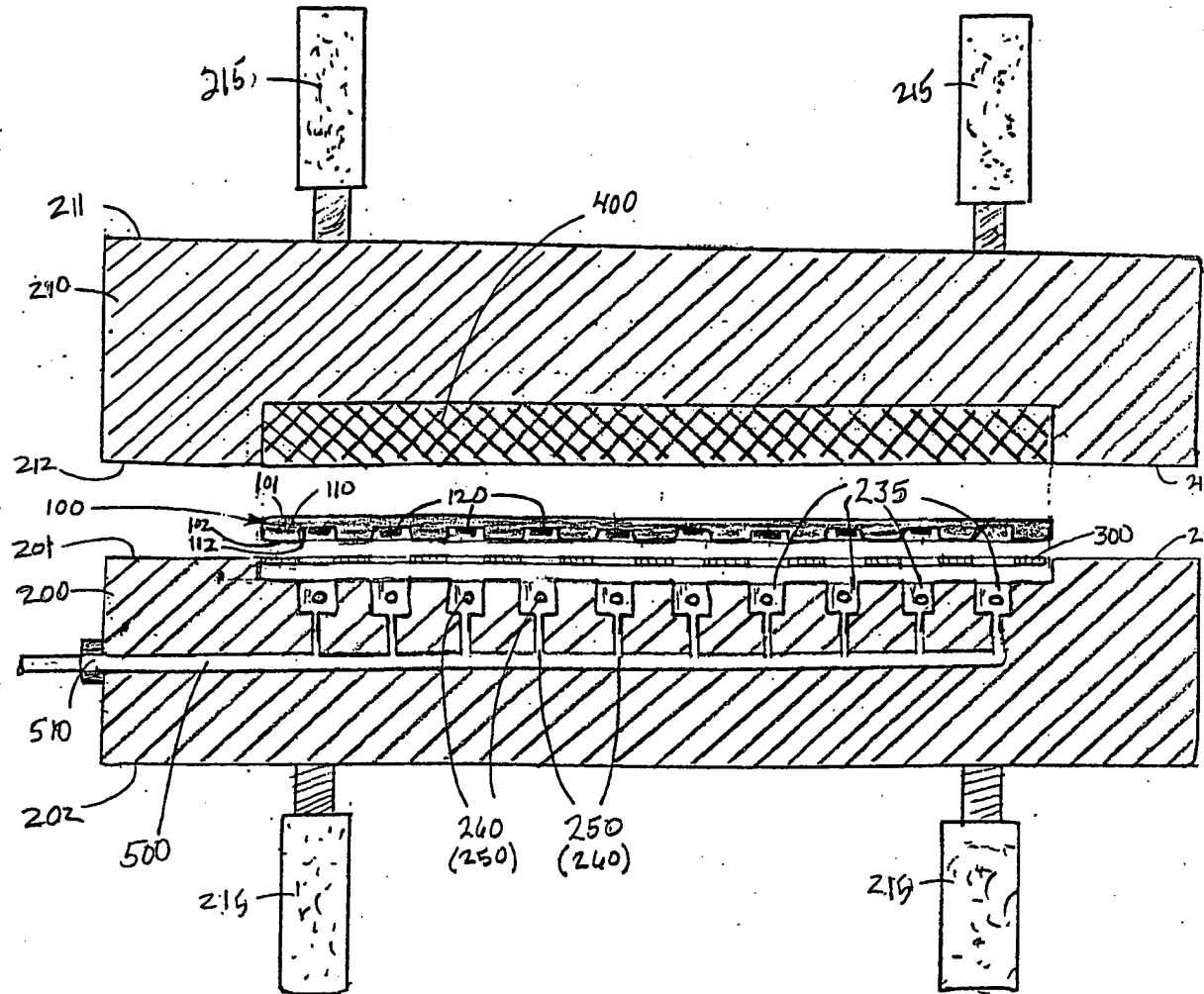
Fig. 1B



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FIG. 2



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FIG. 3A



FIG. 3B



FIG. 3C

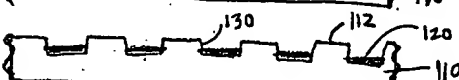


FIG. 3E



FIG. 3F

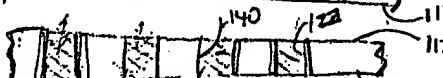


FIG. 3G



FIG. 3H

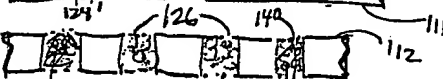


FIG. 3B

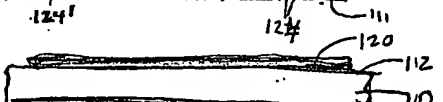


Fig. 4A

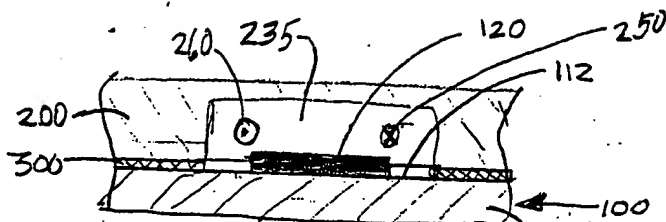


Fig. 4B

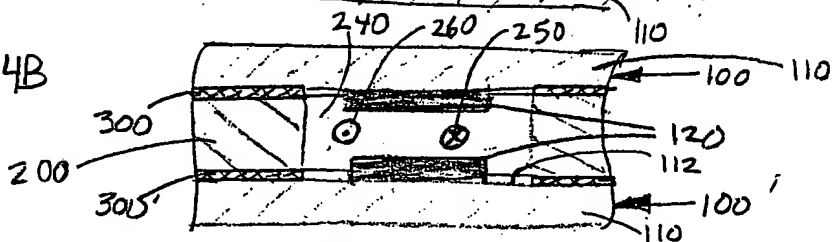


Fig. 4E

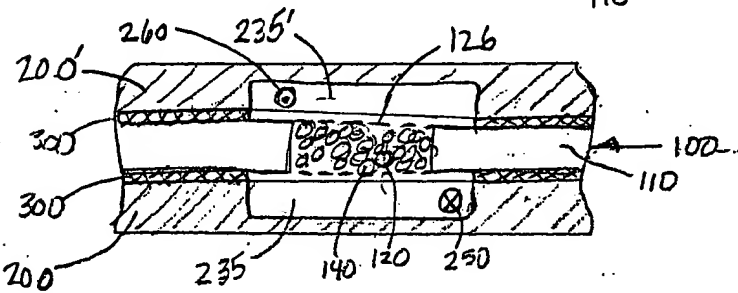


Fig. 4D

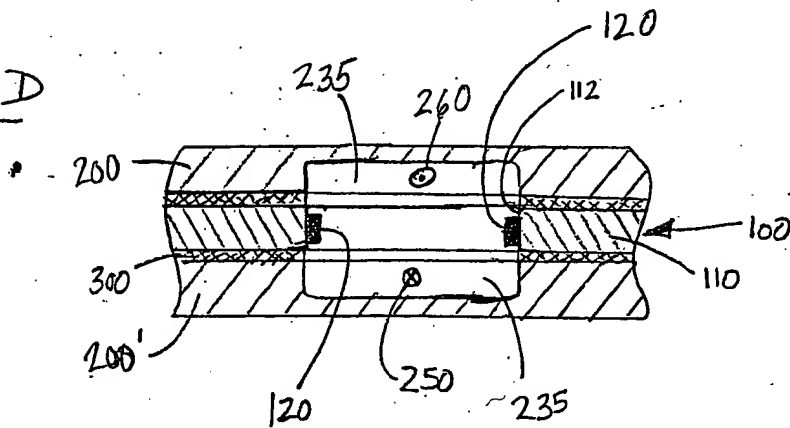


Fig. 4C

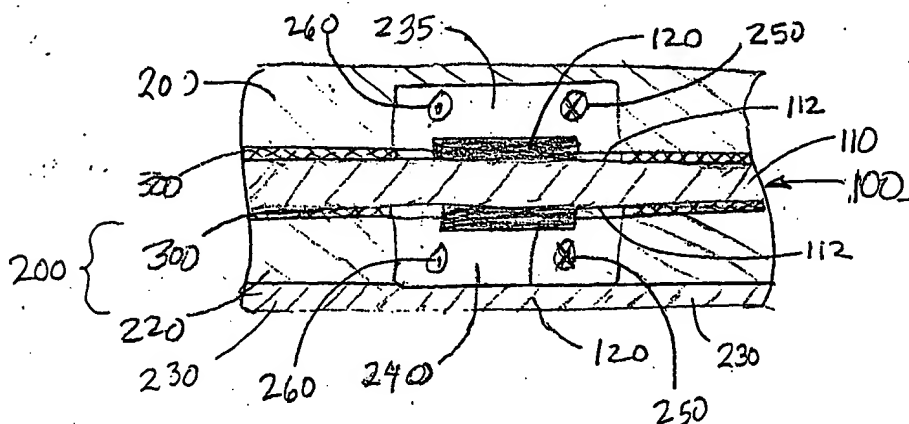
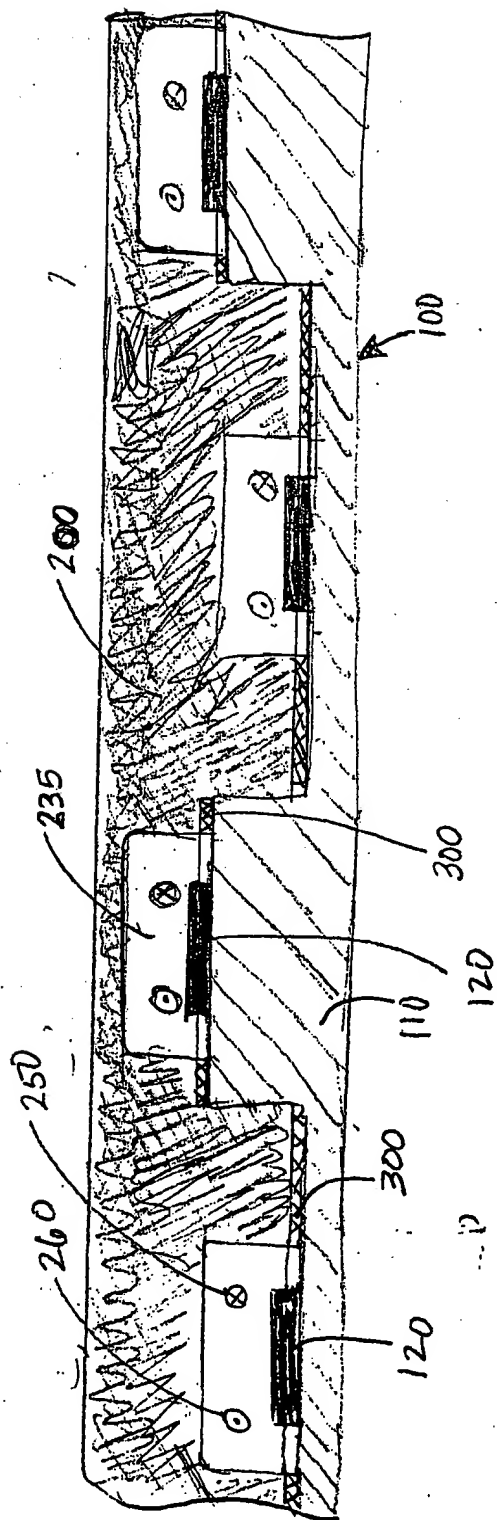


Fig. 5



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Fig. 6A

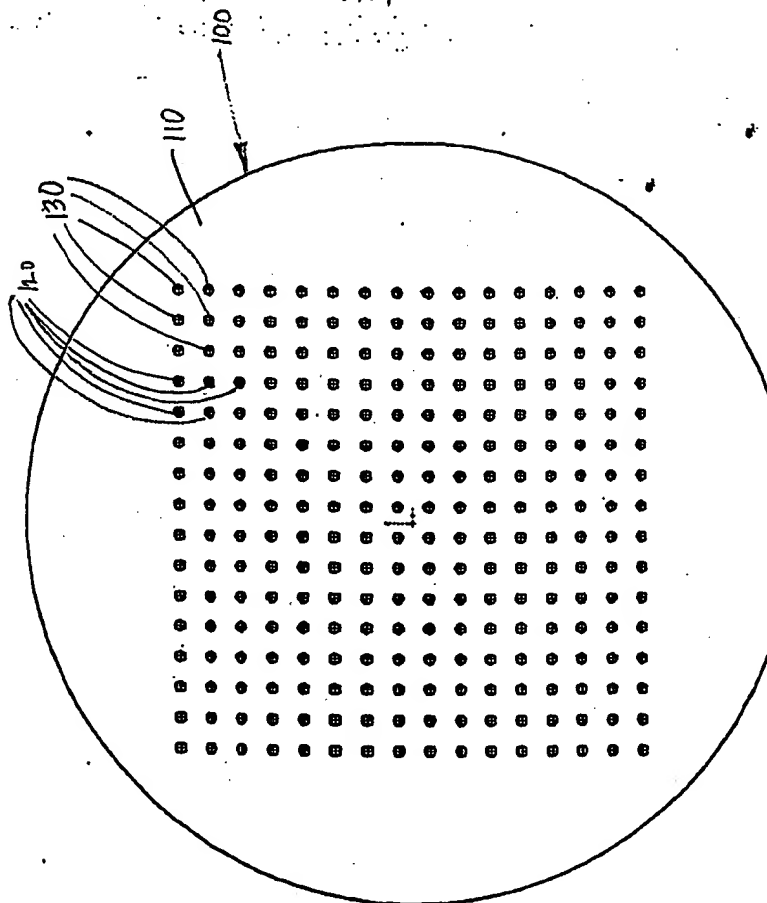
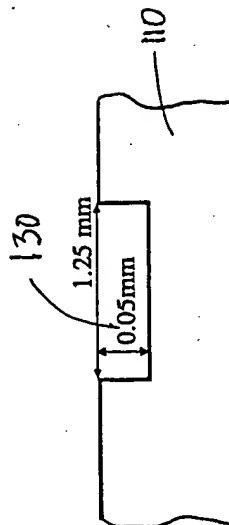
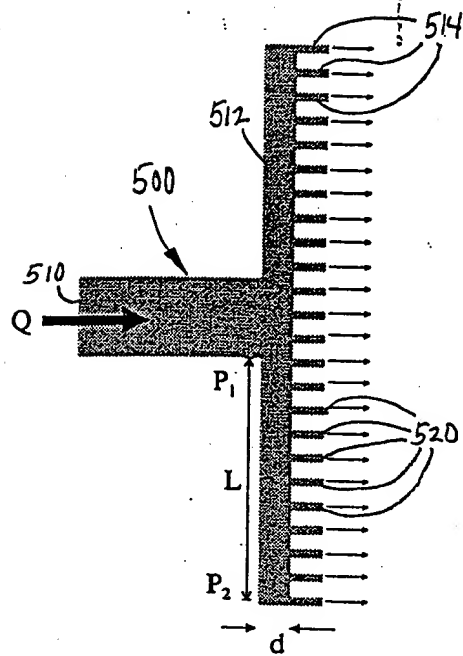


Fig. 6B



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Fig. 7A



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Fig. 7B

2^n (520)
 2^{n-1} (515, 516, 517) channel sections
 (5.4) w/ (515, 516, 517)

4 microreactors
 $n=2$
 so 3 channel sections

2^{n-1} (518)
 4 micro
 $n=2$
 3 binary junctions

$2^{n-1} - 2$
 4 micro
 $n=2$
 0

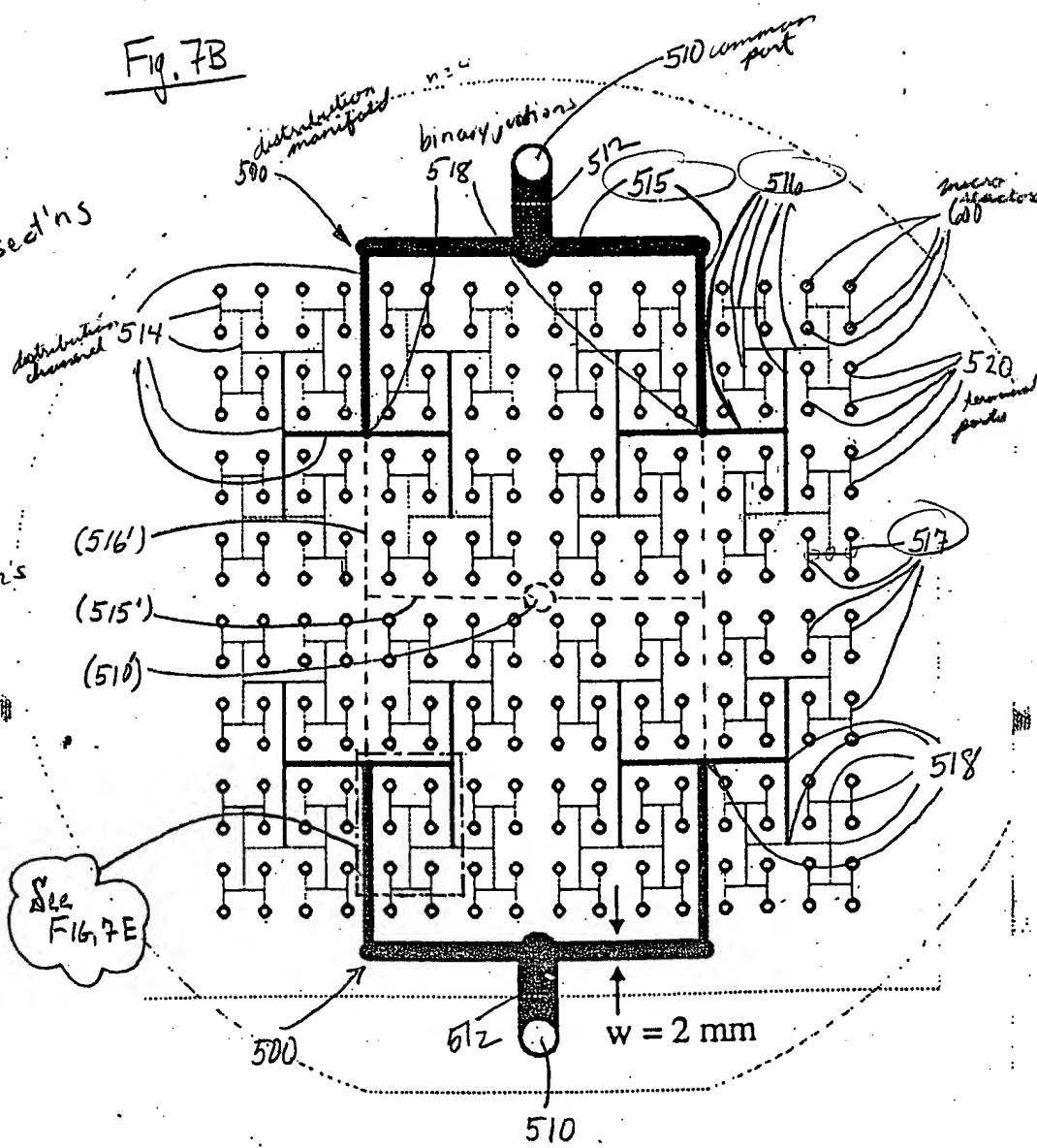
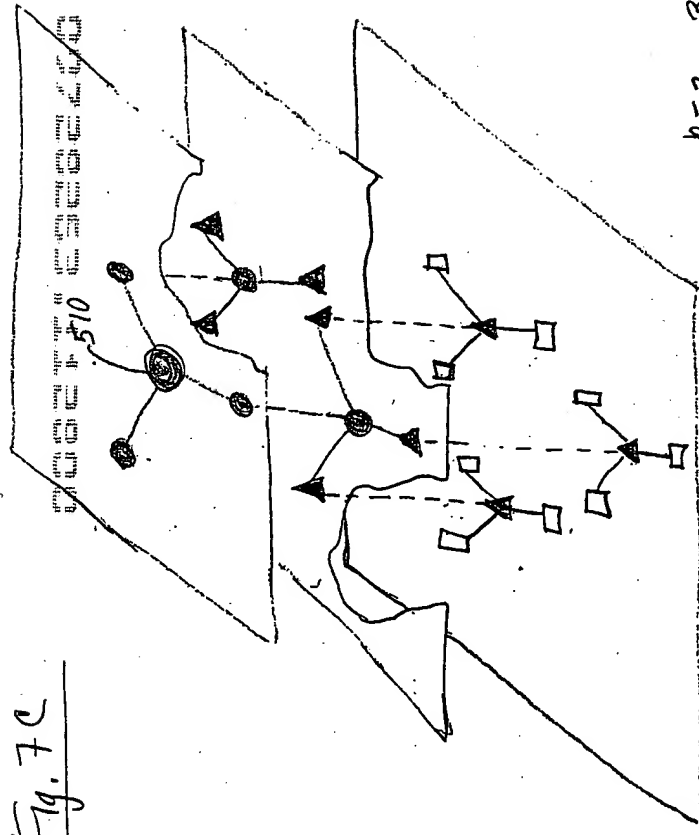


Fig. 7C

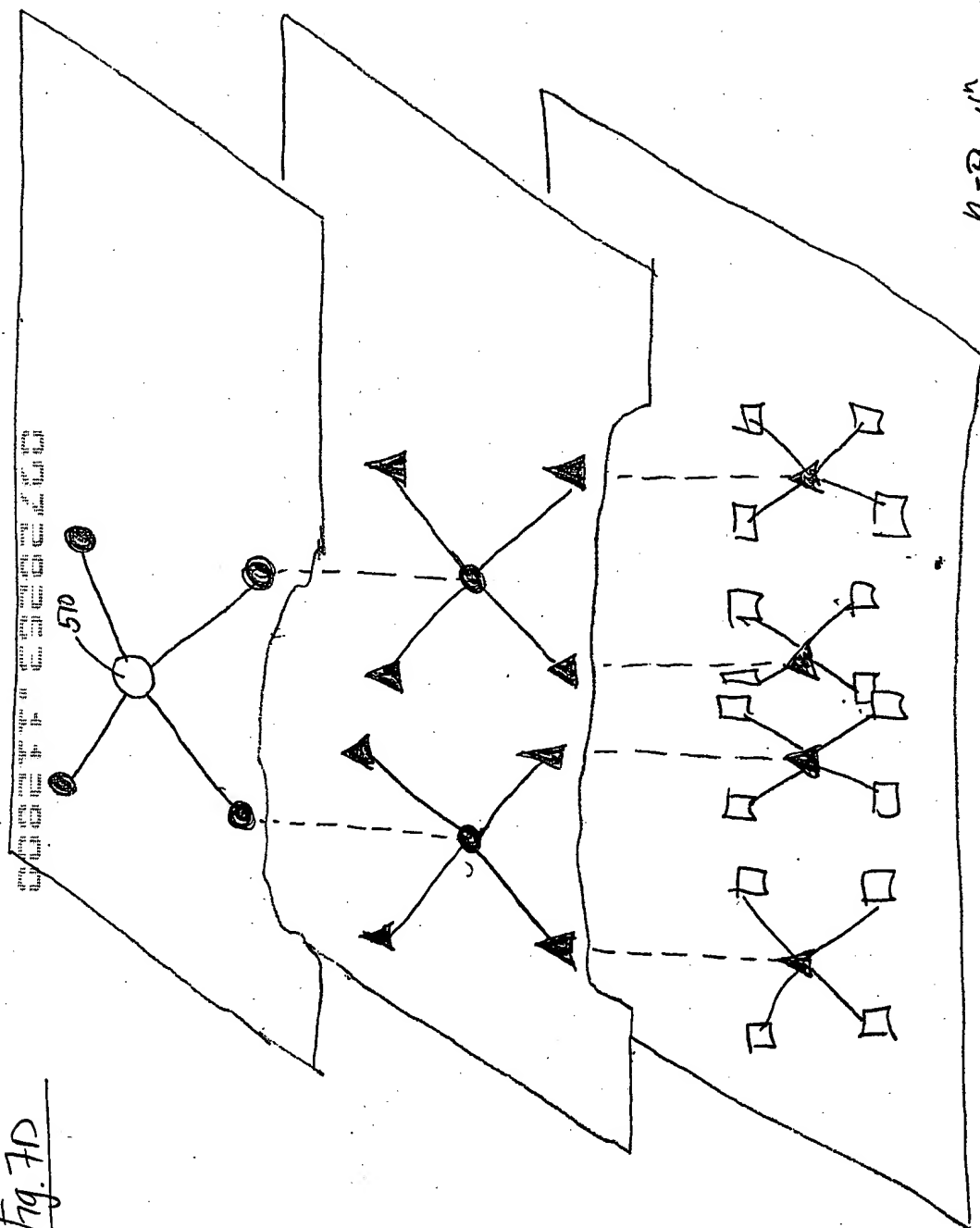


$n=3, 13^{\wedge}=27$

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Fig. 7D

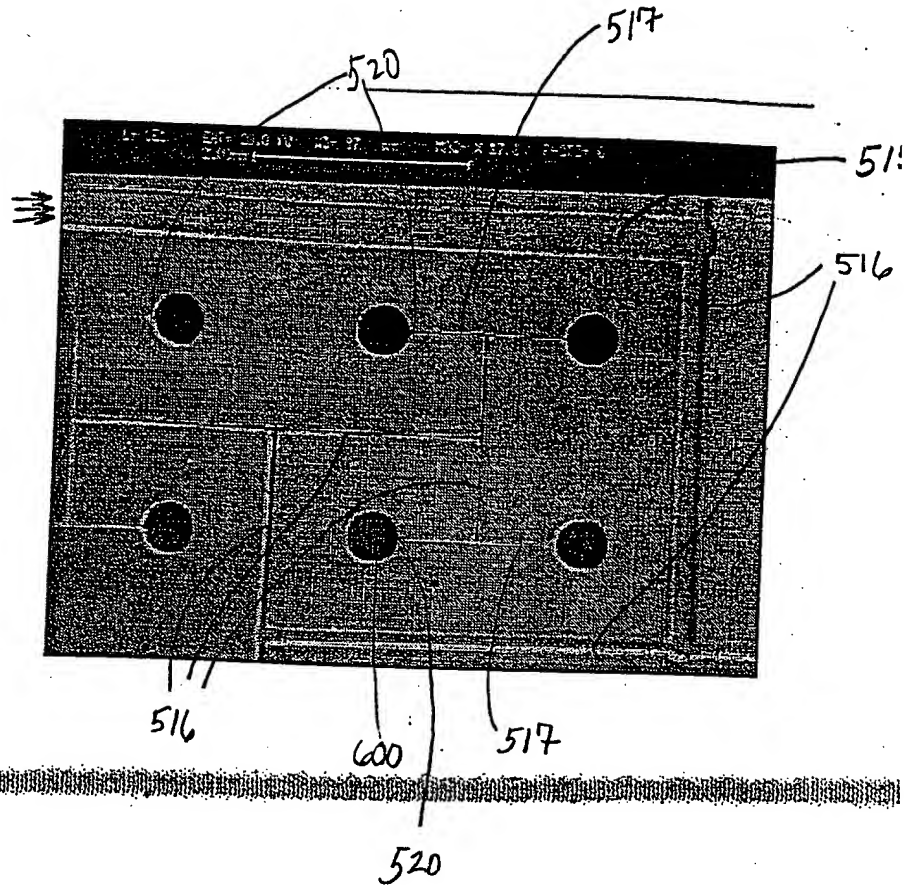
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$$n=3, 4^n=64$$

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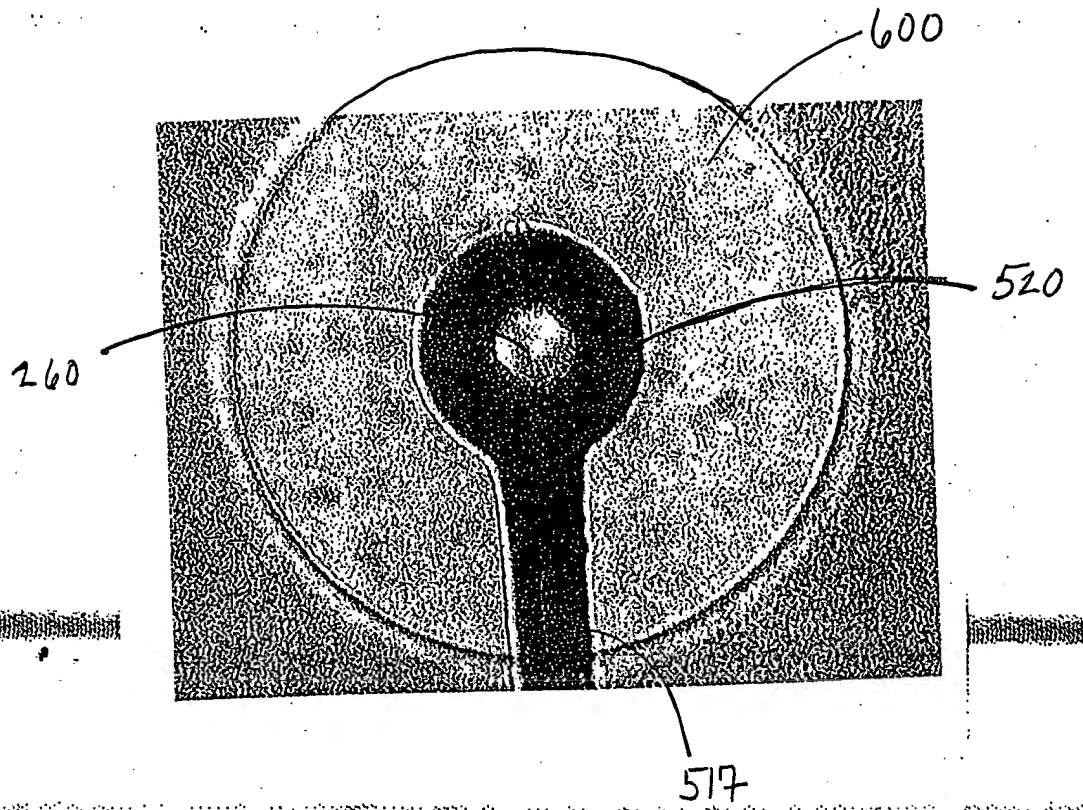
Fig 7E



(red line drawing)

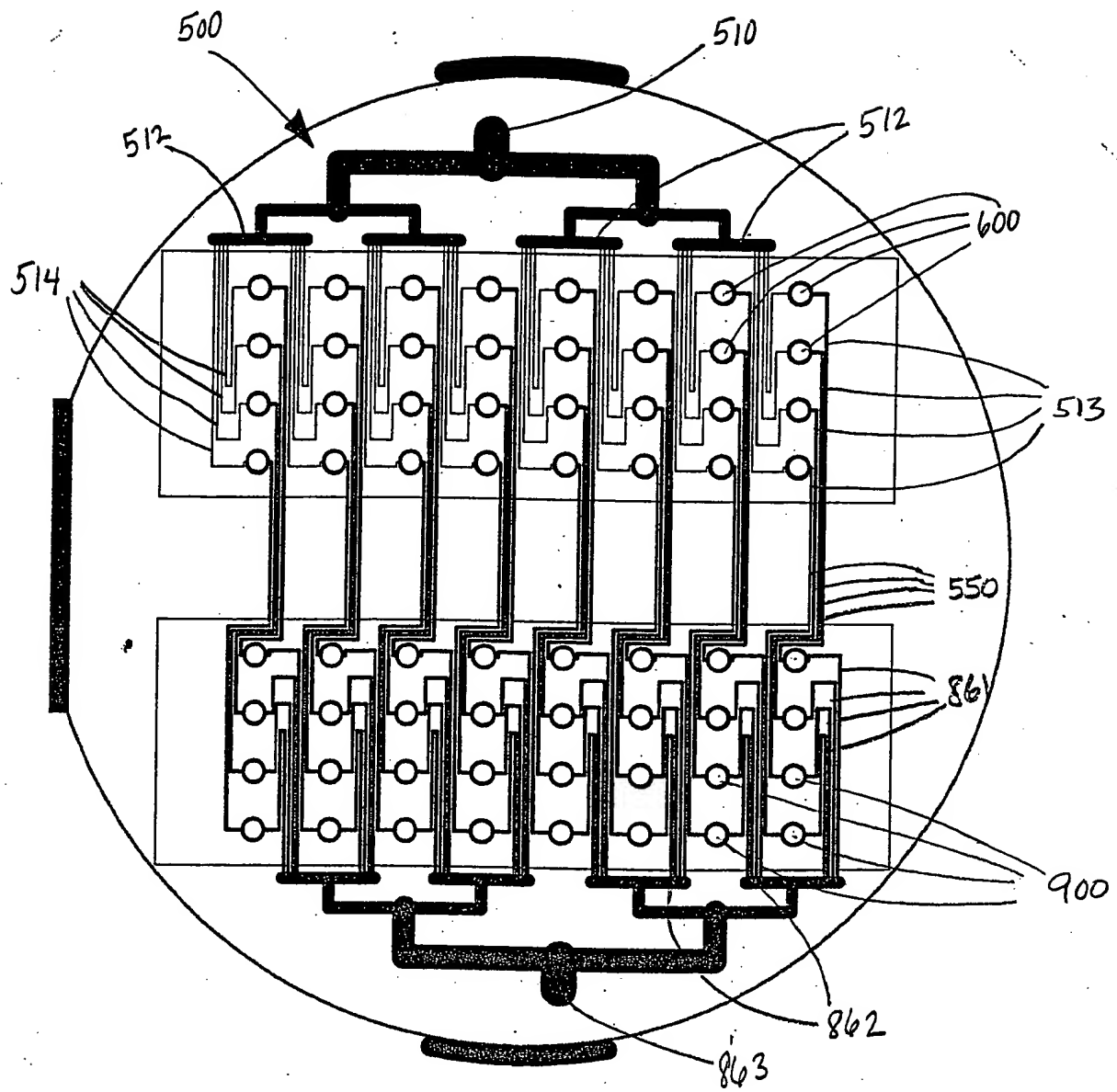
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FIG. 7F



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Fig. 7G.



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Fig. 7H

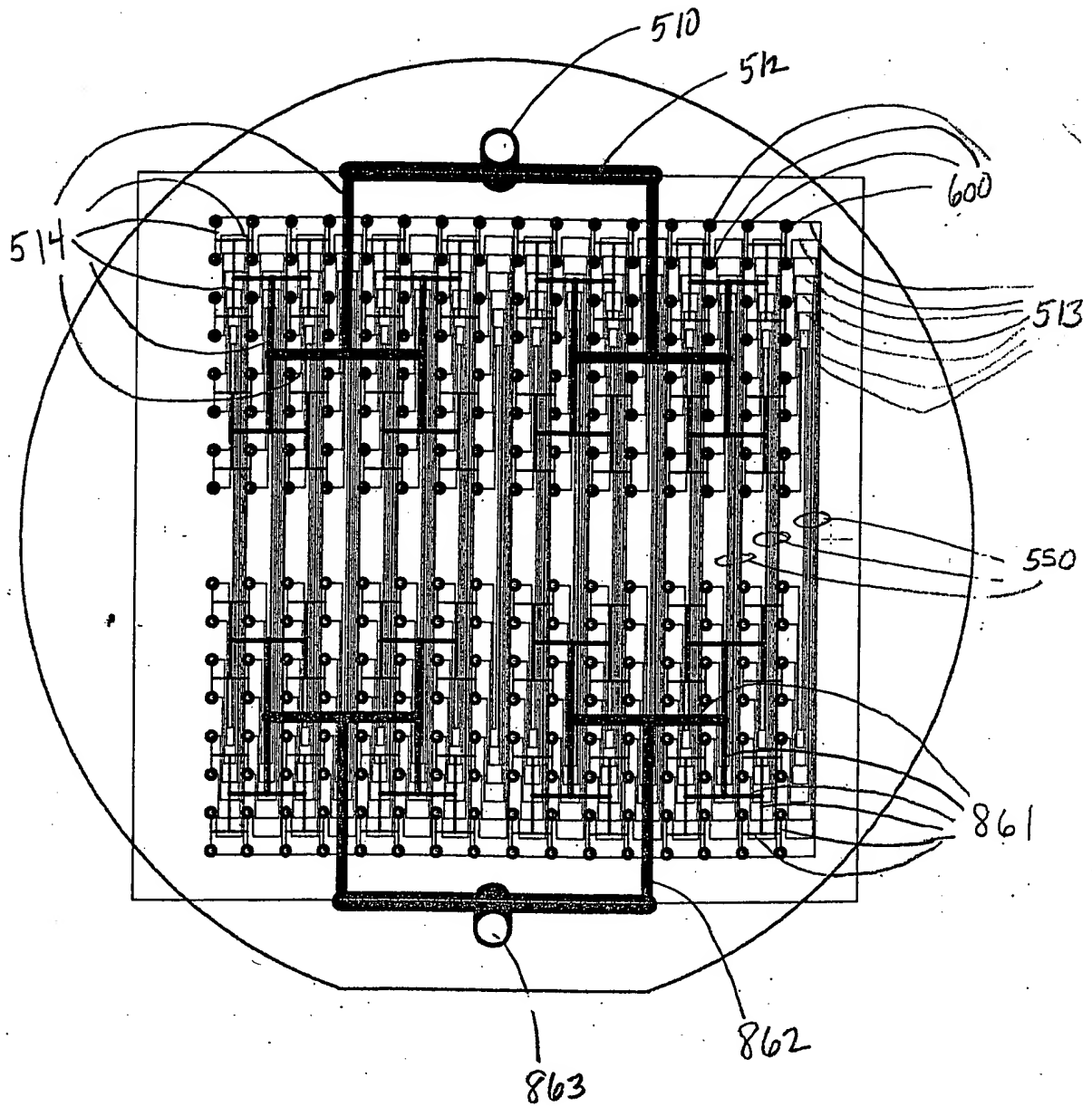
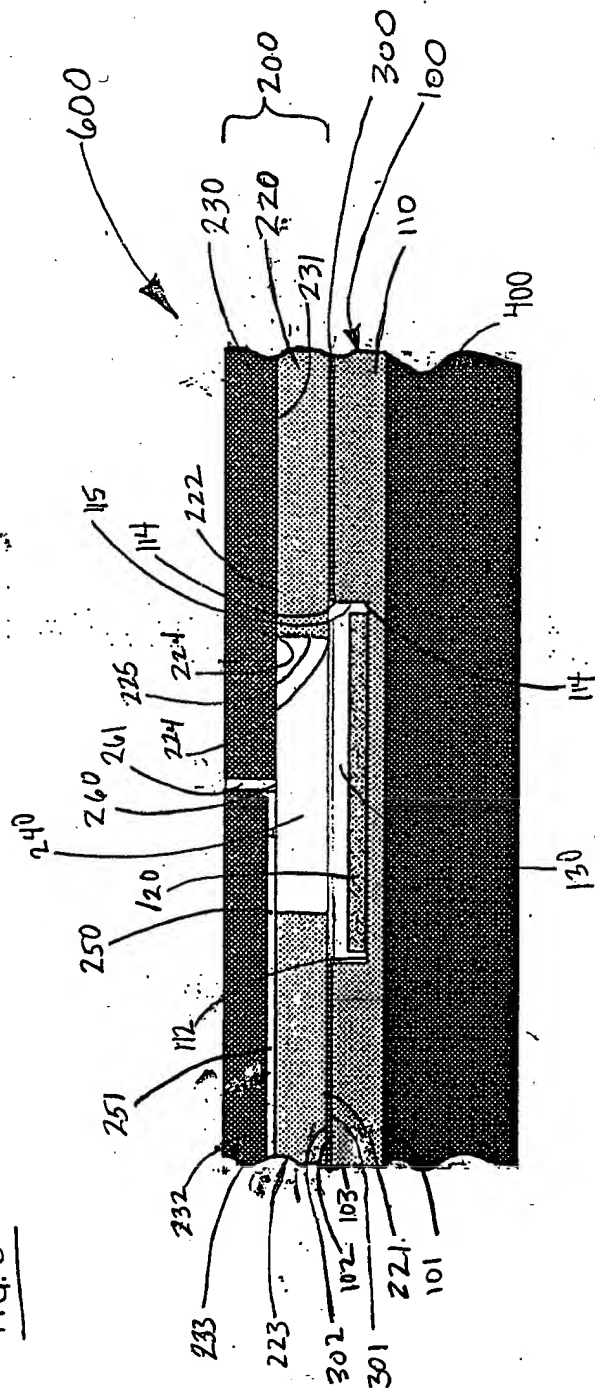


FIG. 8

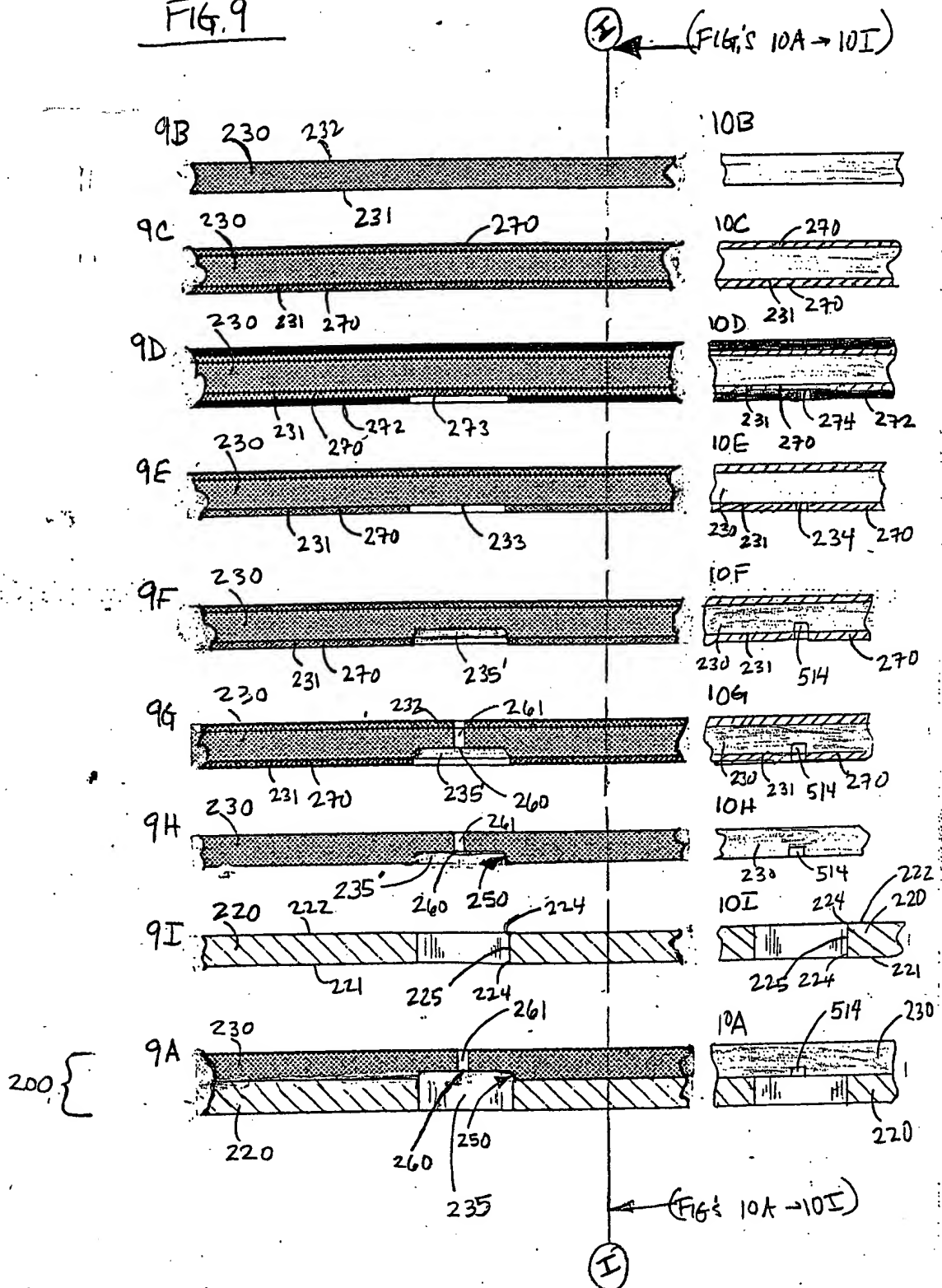


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FIG. 9

FIG. 10



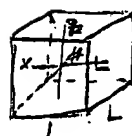
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FIG. 11A



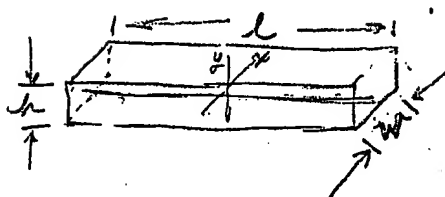
$$x:y:z \equiv 1$$

FIG. 11B



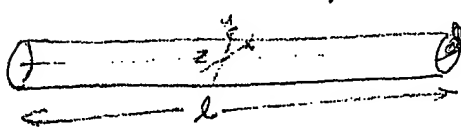
$$x:y:z \equiv 1$$

FIG. 11C



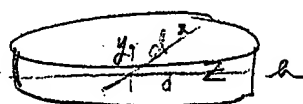
$$\begin{aligned} x:z &= w/e \\ y:z &= h/w \end{aligned}$$

FIG. 11D



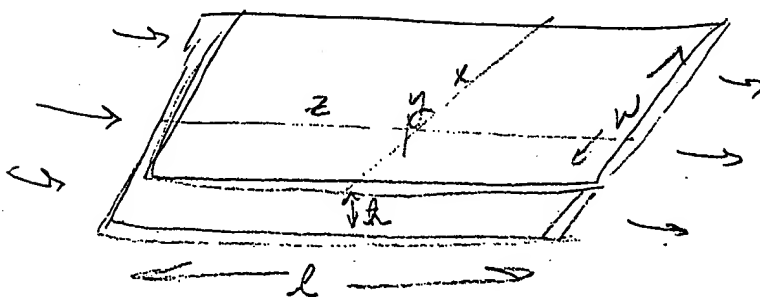
$$\begin{aligned} x:z &= \frac{d}{2} \\ y:z &= d/2 \end{aligned}$$

FIG. 11E



$$\begin{aligned} x:z &= \frac{d}{a} \equiv 1 \\ y:z &= h/a \end{aligned}$$

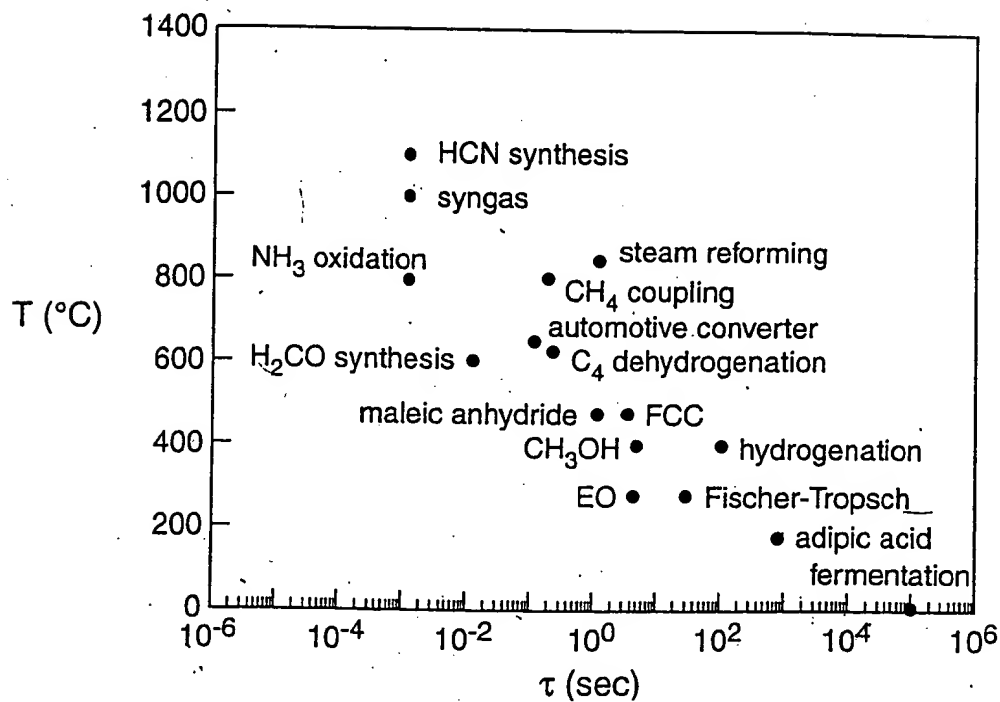
FIG. 11F



$$\begin{aligned} x:z &= \frac{w}{2} \\ y:z &= \frac{h}{2} \end{aligned}$$

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Fig. 12

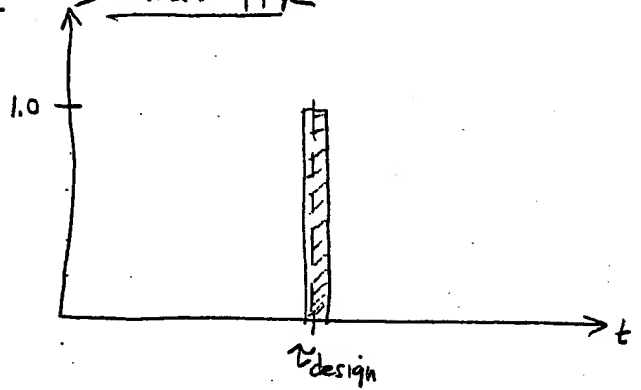


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FIG. 13A. : Idealized PFR

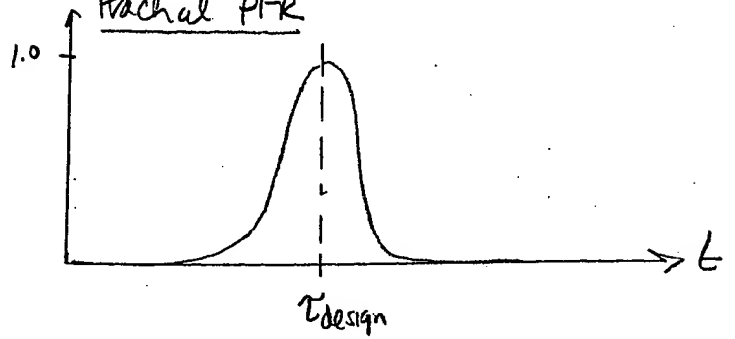
$P \equiv$ probability function



$\tau \equiv$ residence time

FIG 13B

Batch PFR



τ

FIG. 13C

CSTR

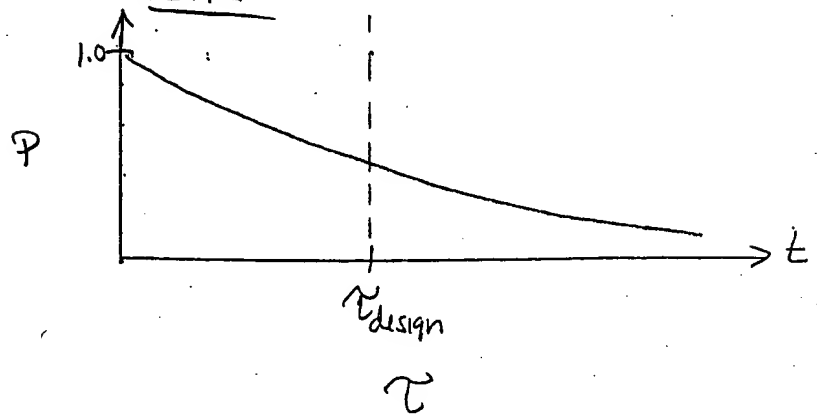


Fig 15:

Fig. 15A

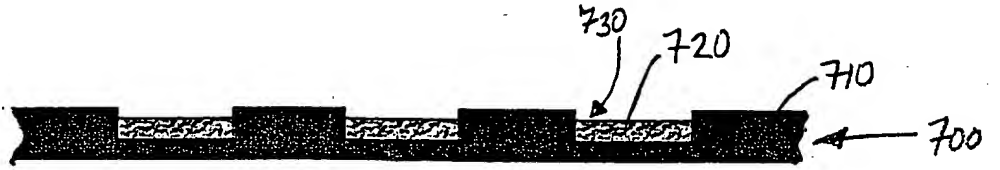


Fig. 15B

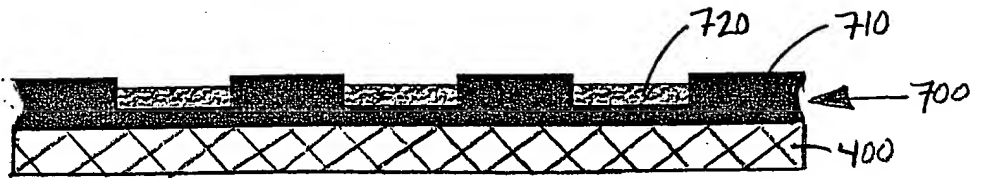
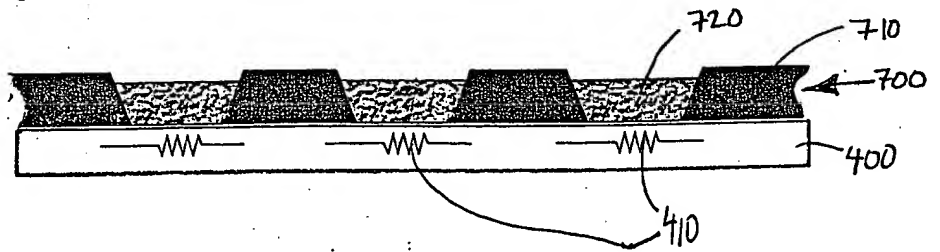


Fig 15C



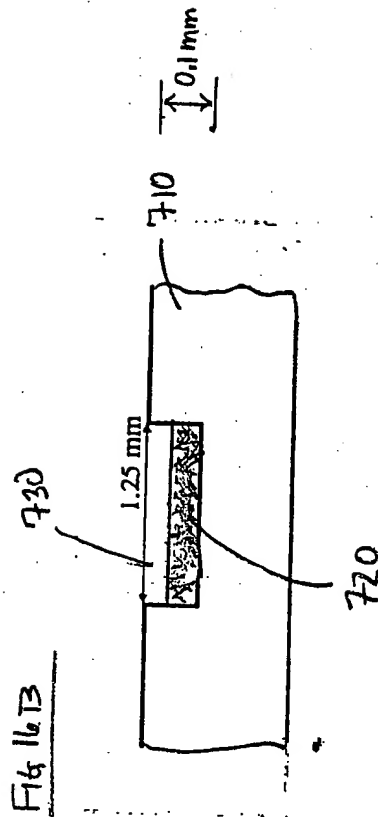
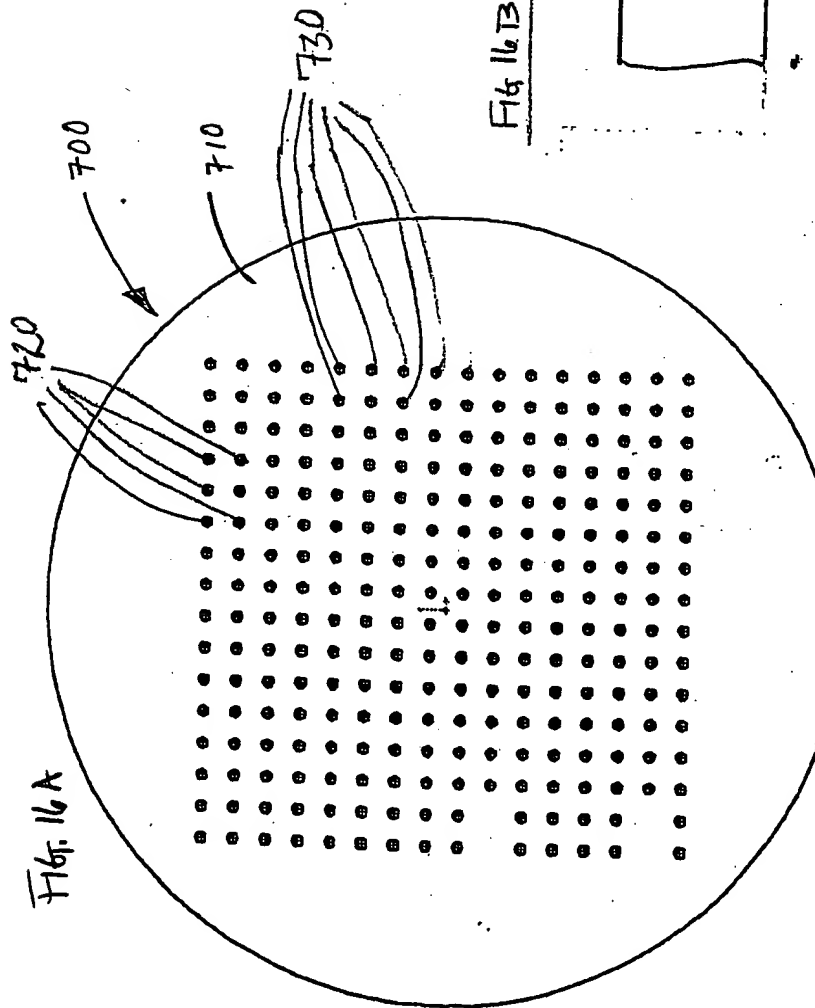


FIG. 16

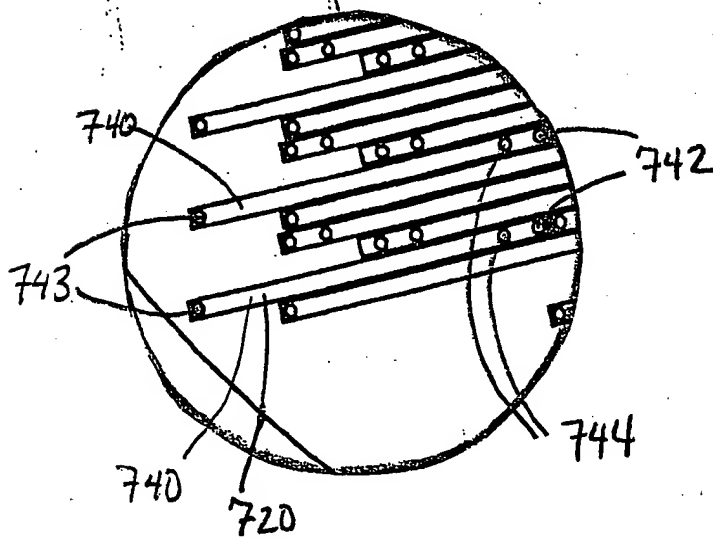
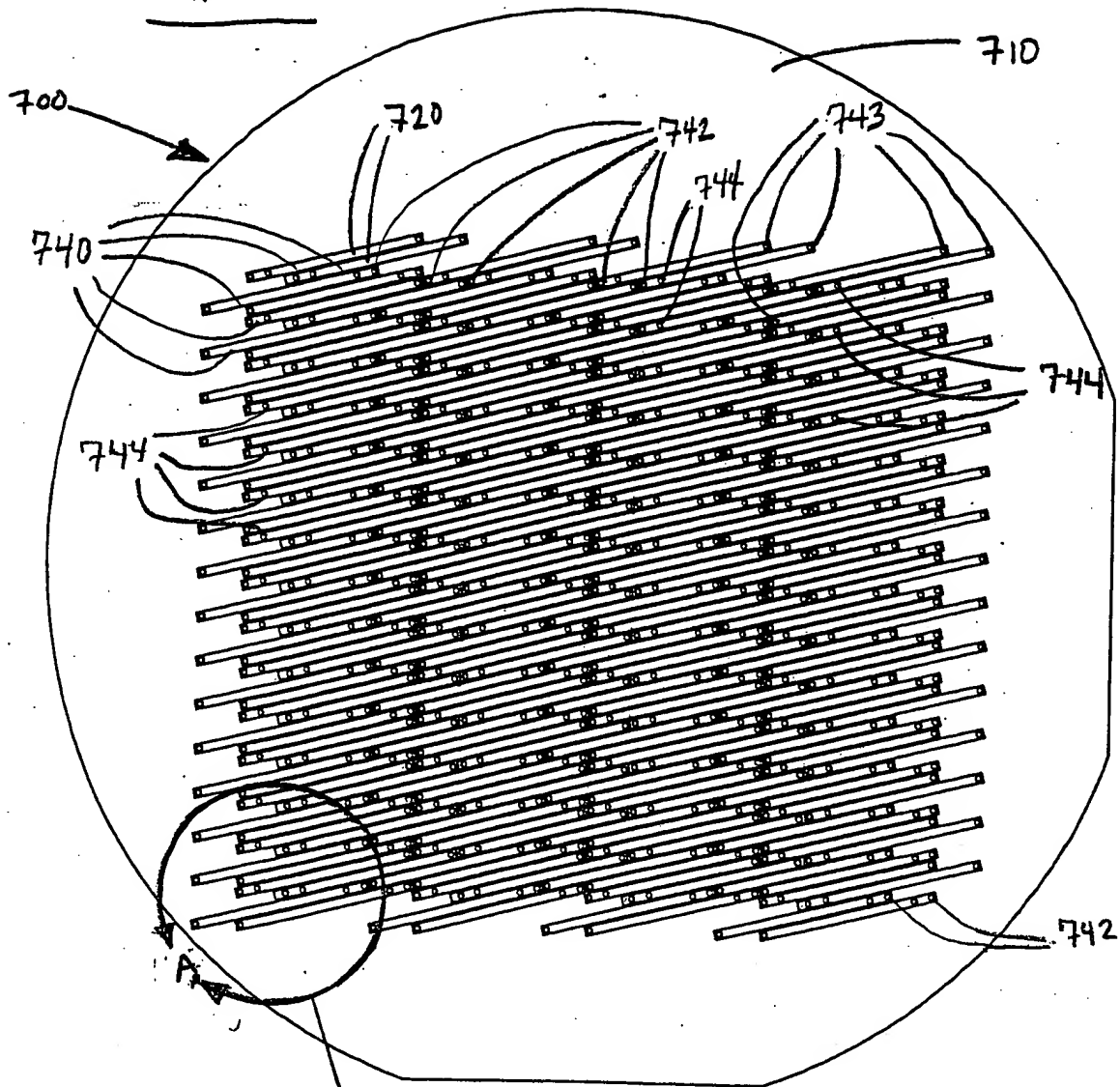


FIG. 16D

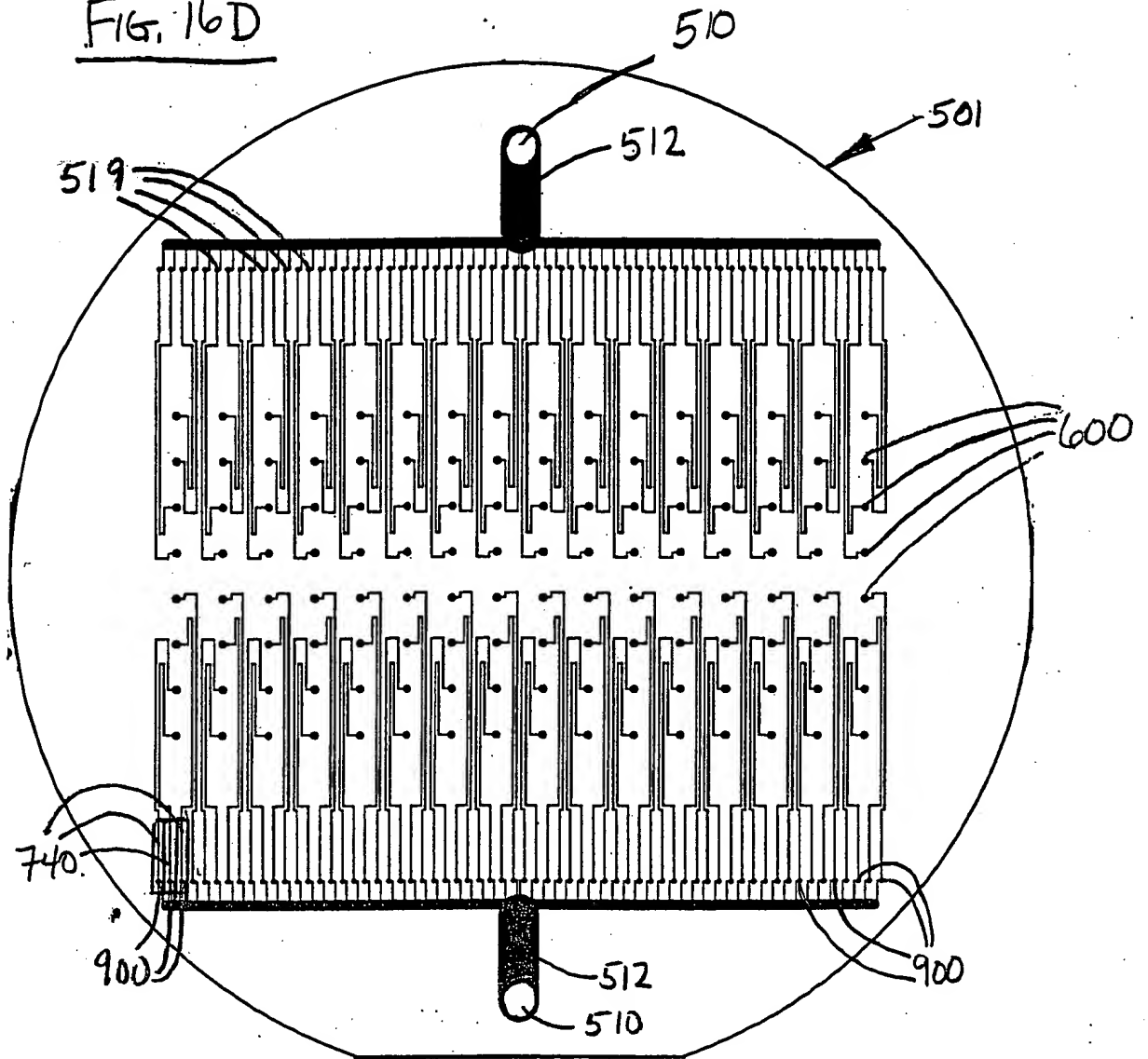
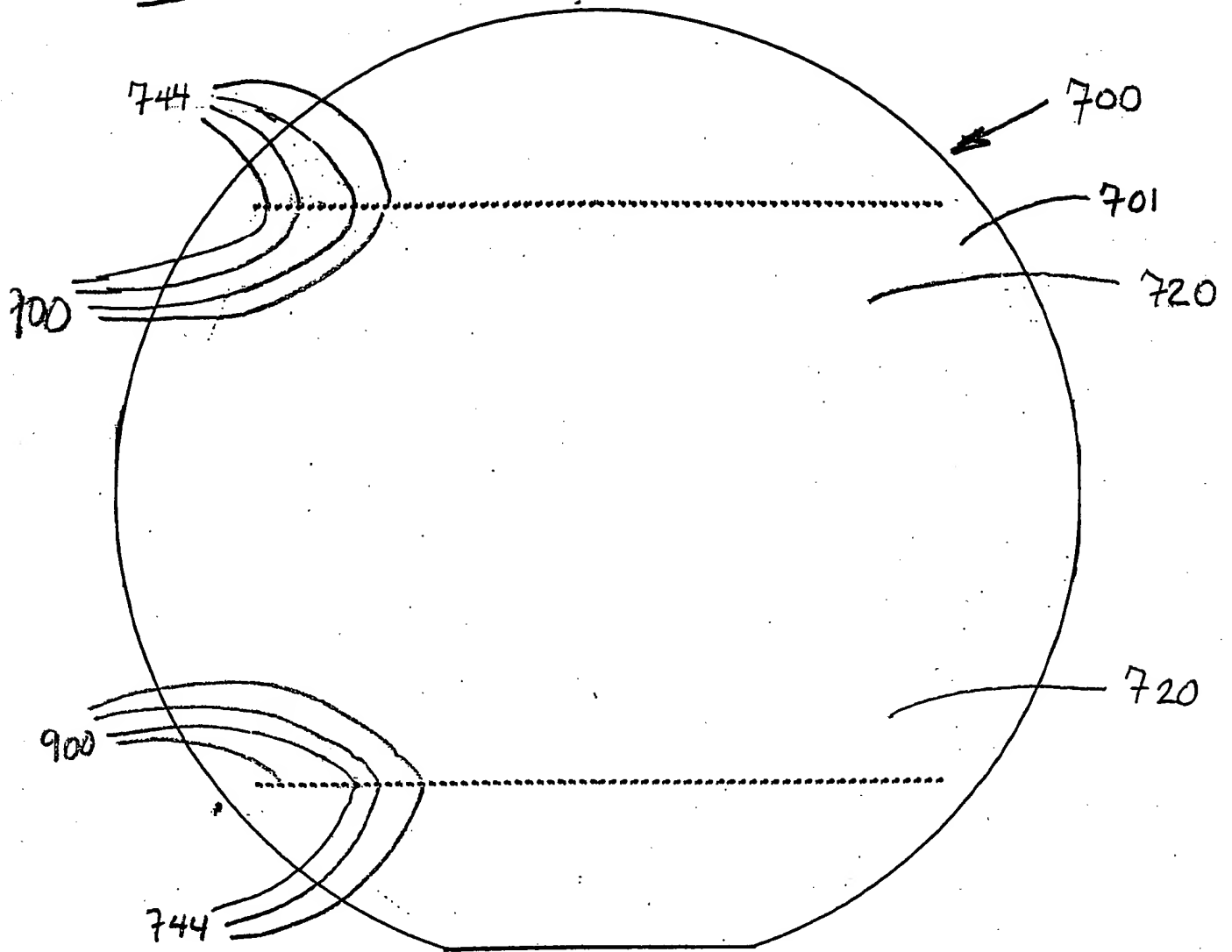


FIG. 16E



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FIG. 17A

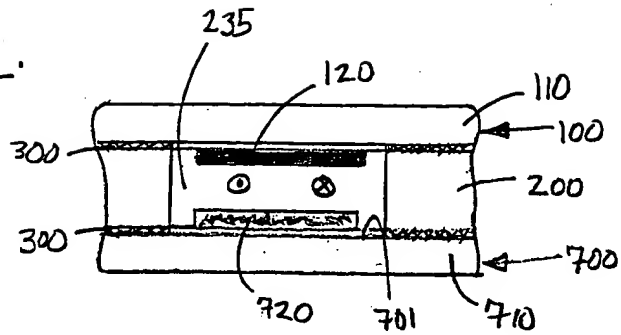
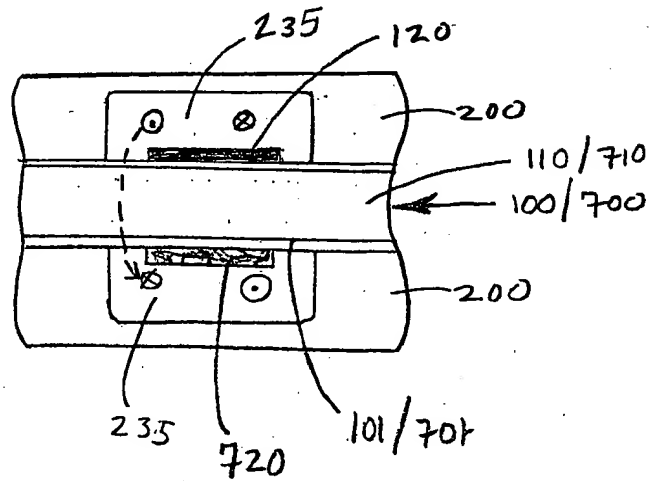
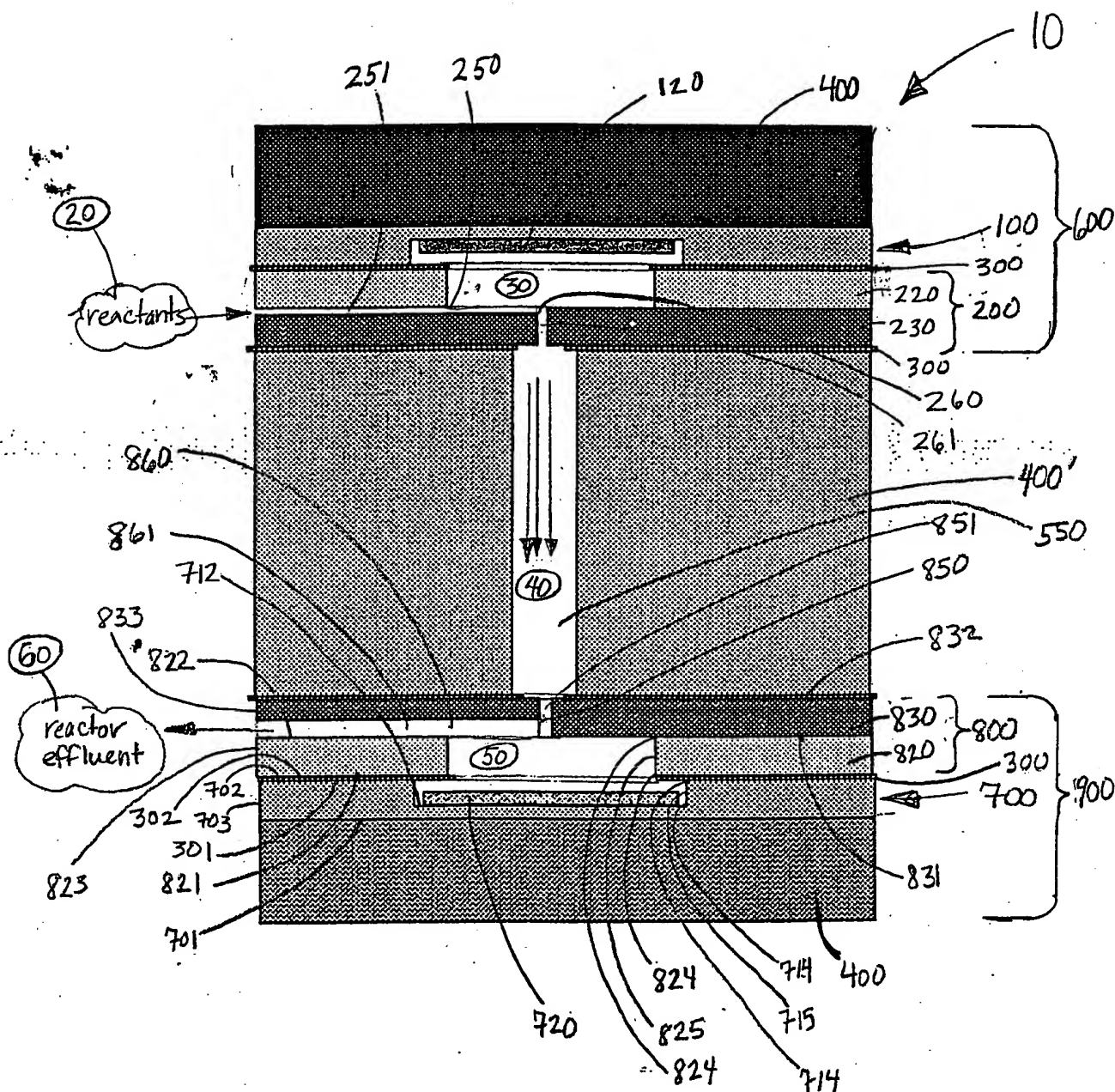


FIG. 17B



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Fig. 18A



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Fig. 18B

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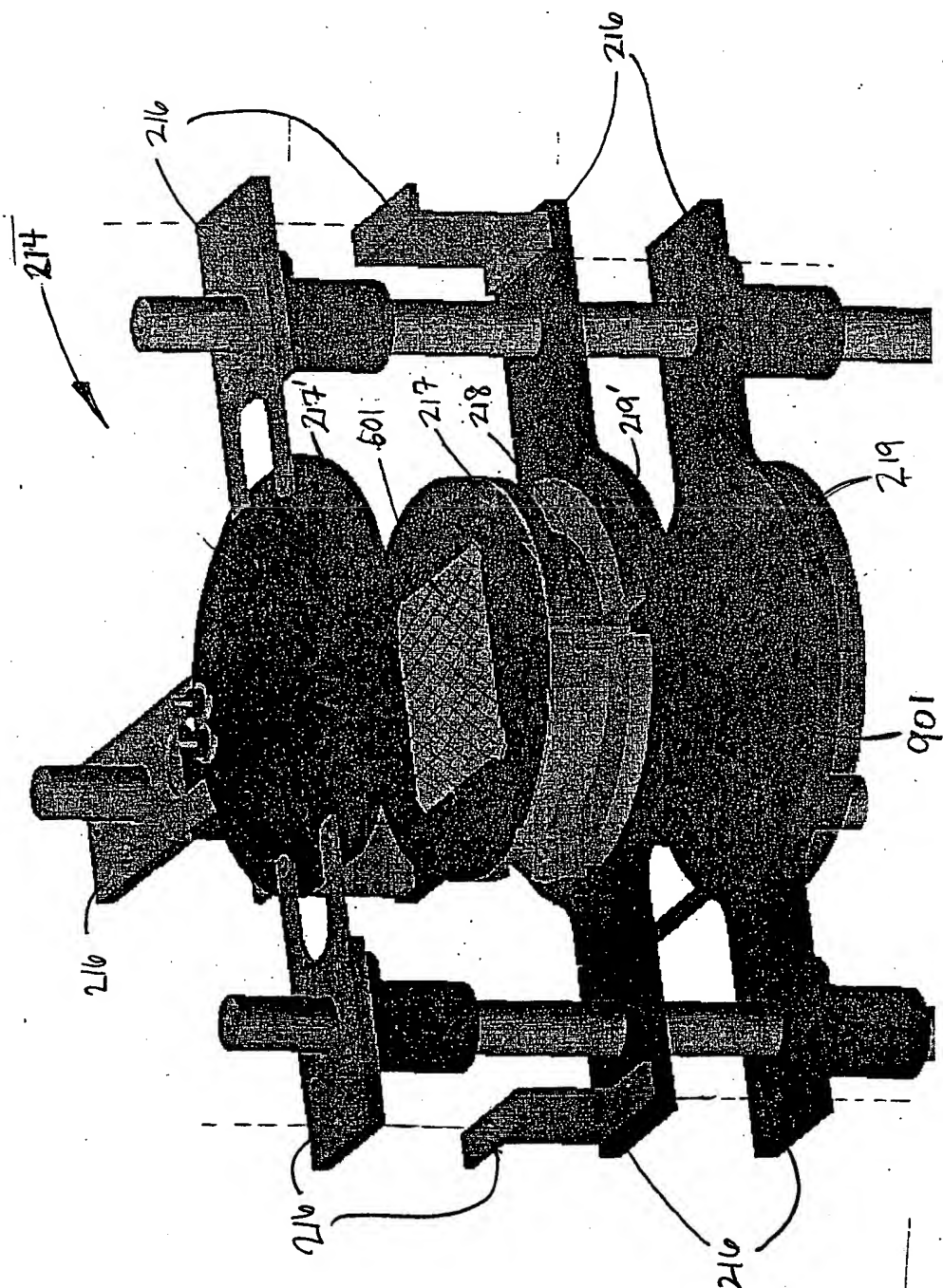


FIG. 18C

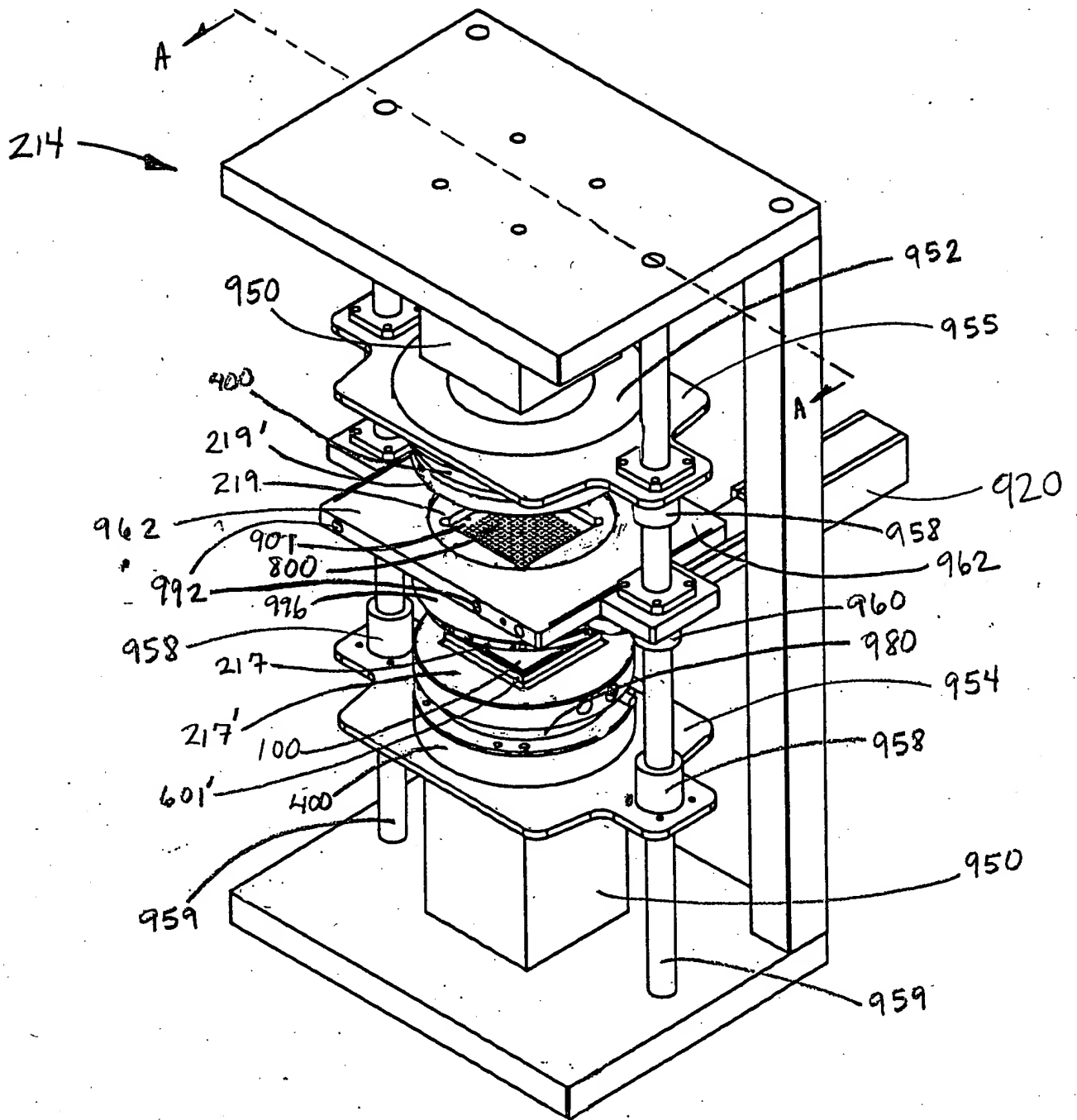


FIG. 18D

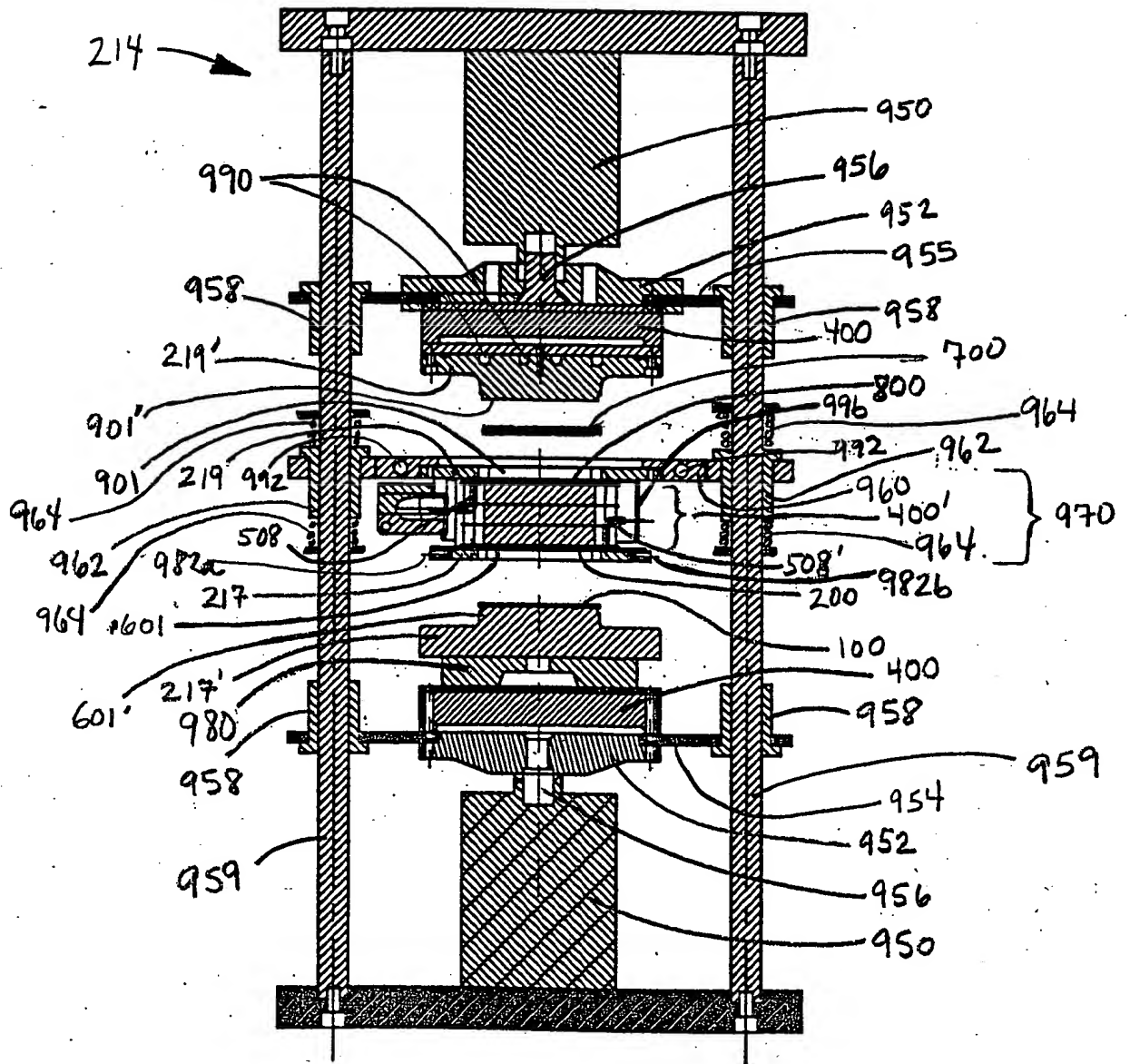


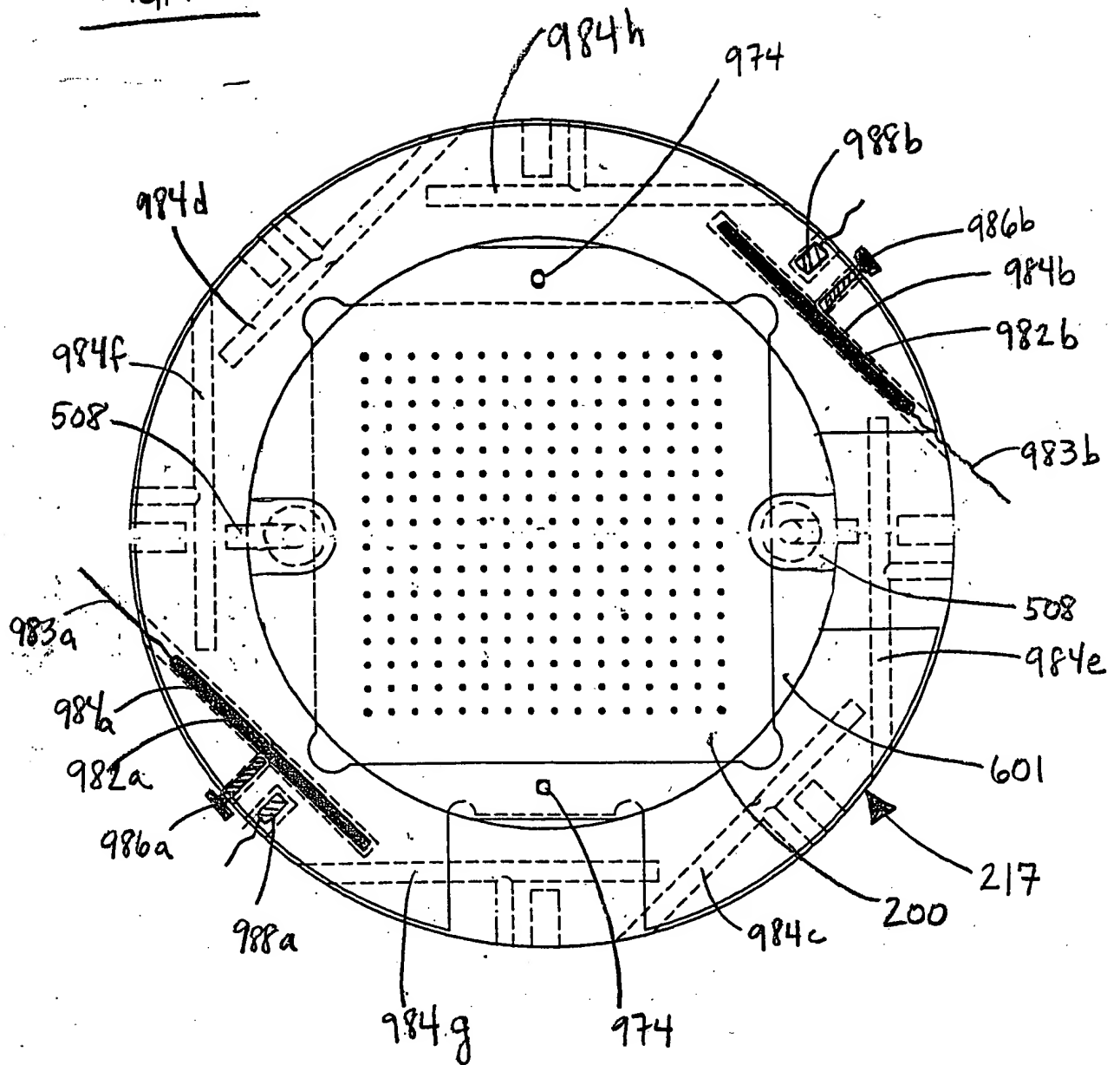
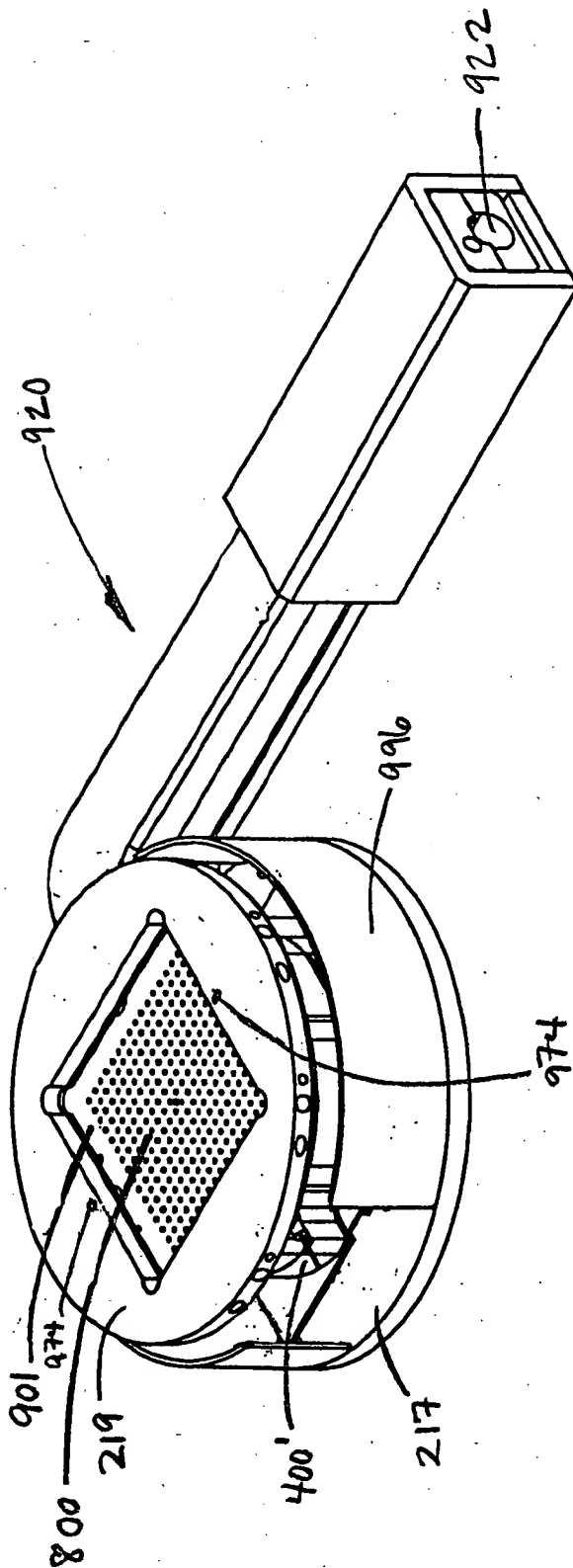
FIG. 18E

Fig. 18F



1. The first step is to identify the problem. This involves understanding the current situation and the goals that need to be achieved.

B

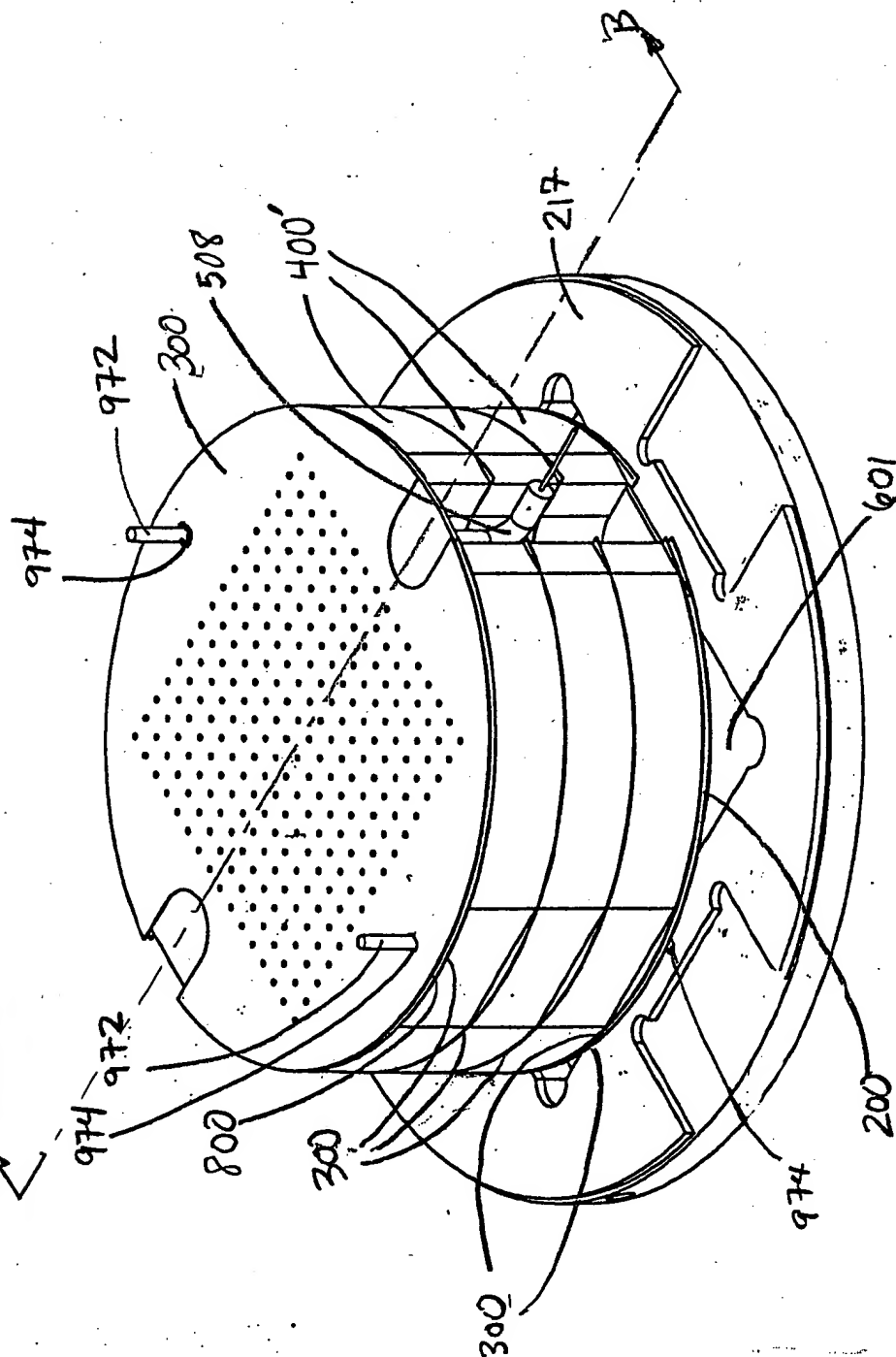
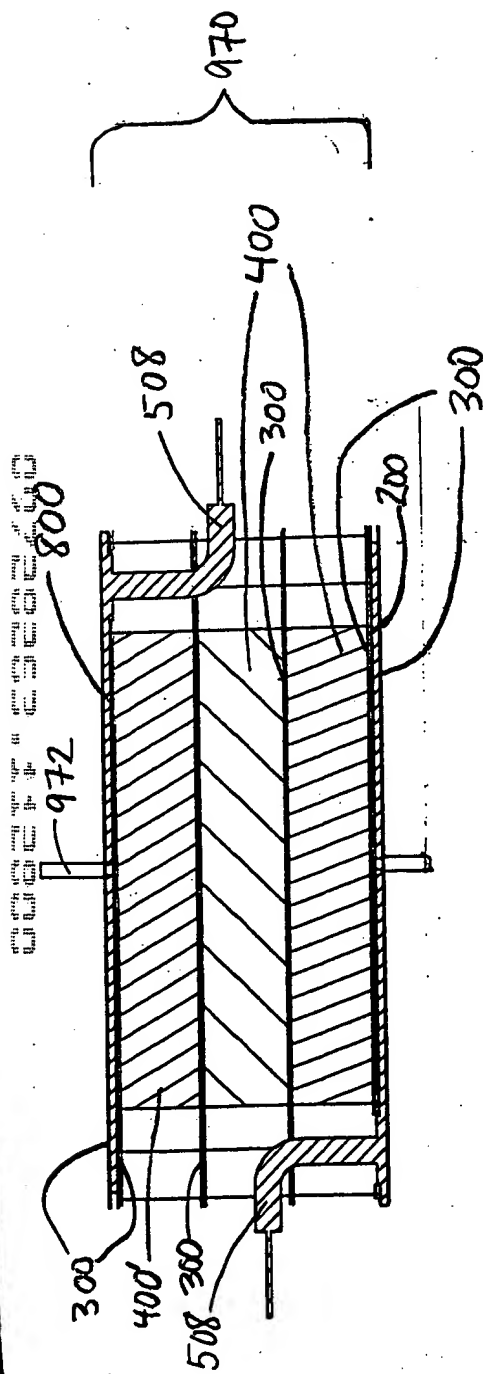
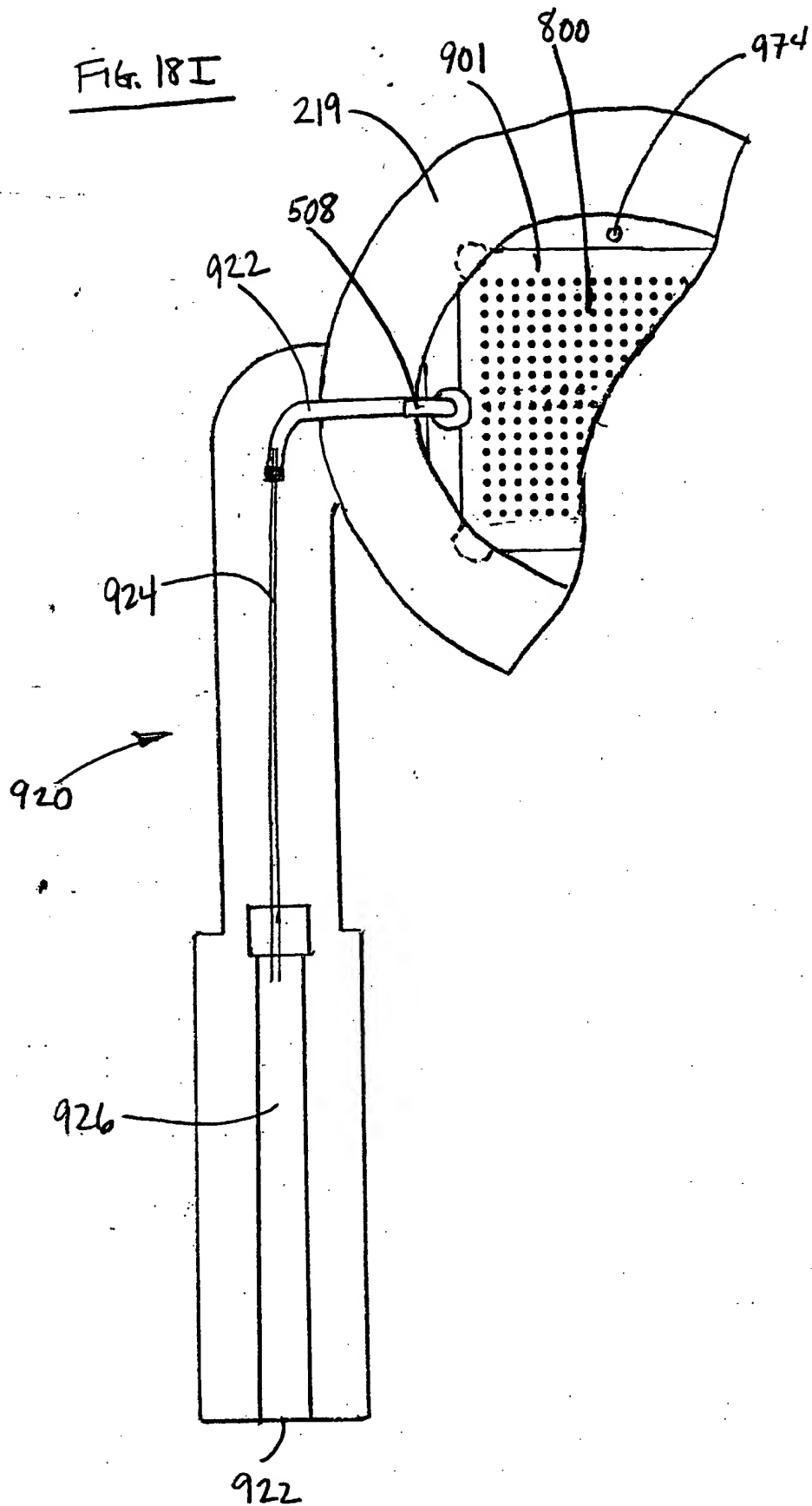


Fig. 18 H



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FIG. 18I



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FIG. 18J

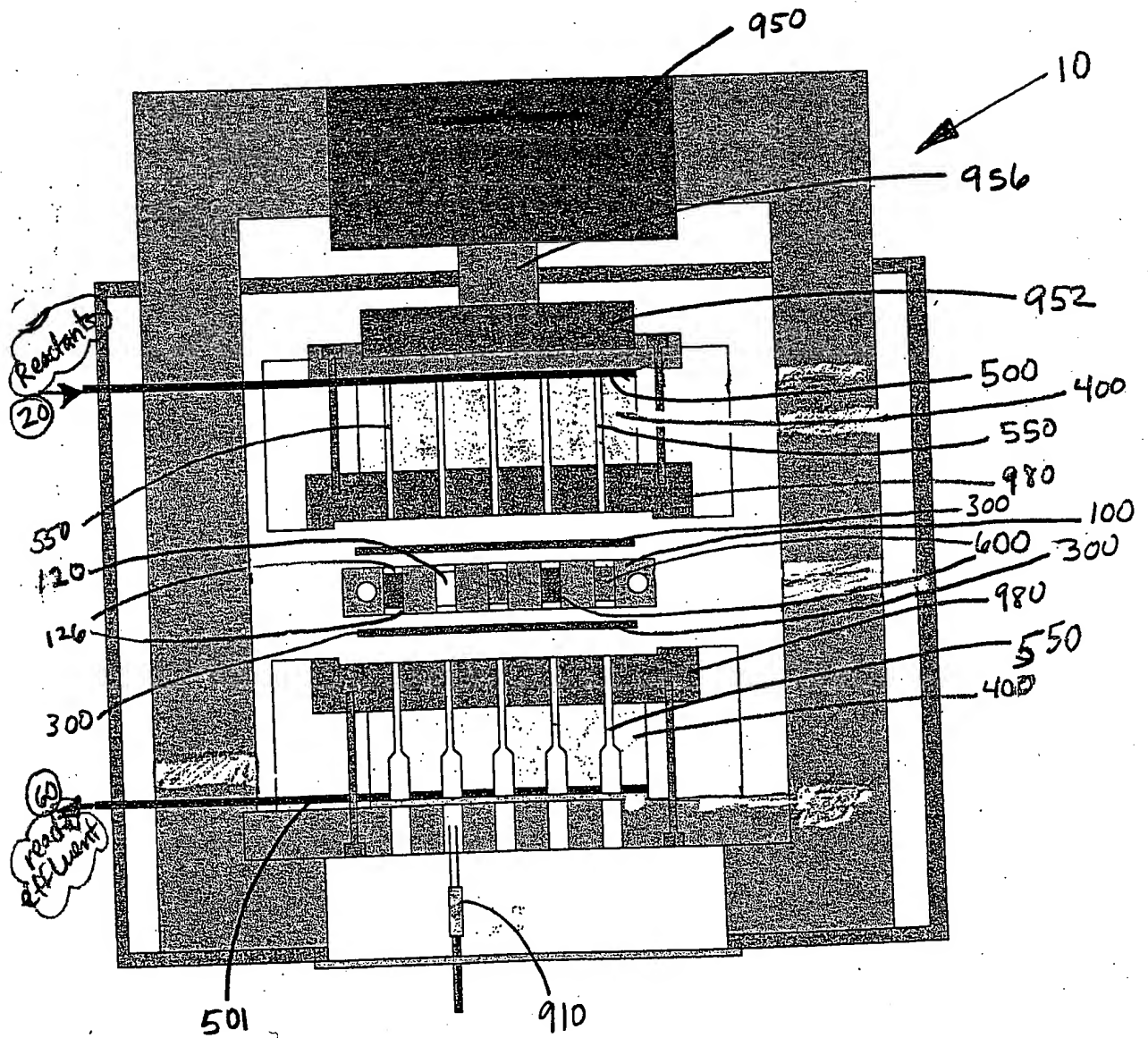


FIG. 19A

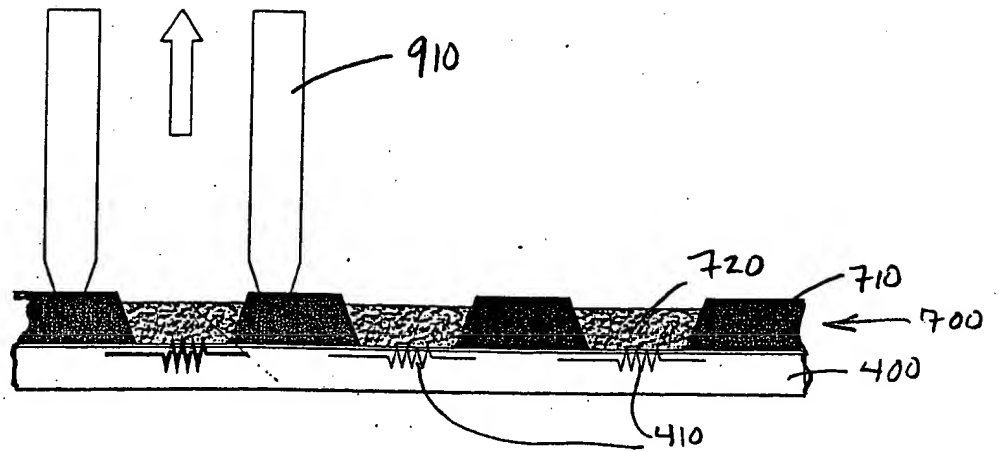


FIG. 19B

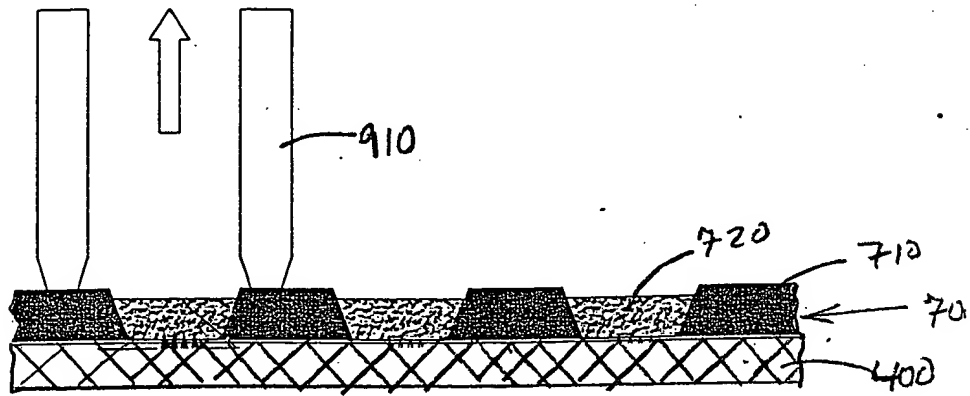
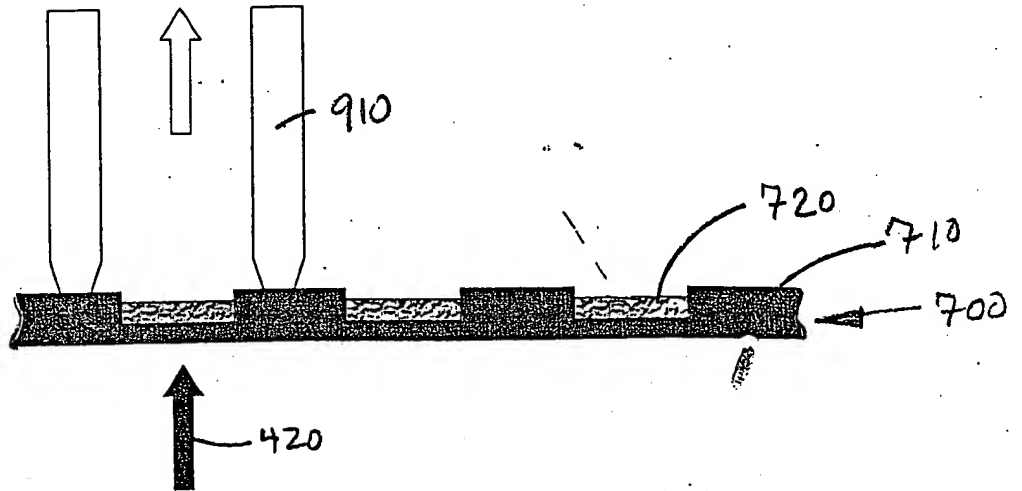
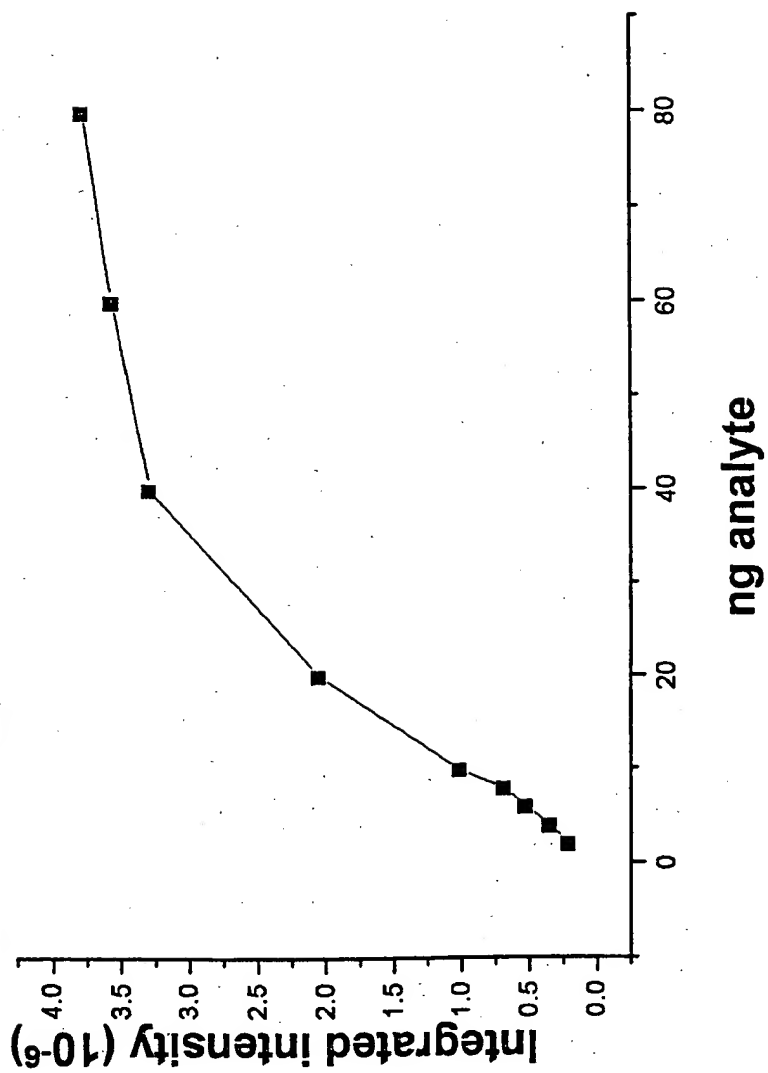


FIG. 19C



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Fig. 20A



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Fig. 20B

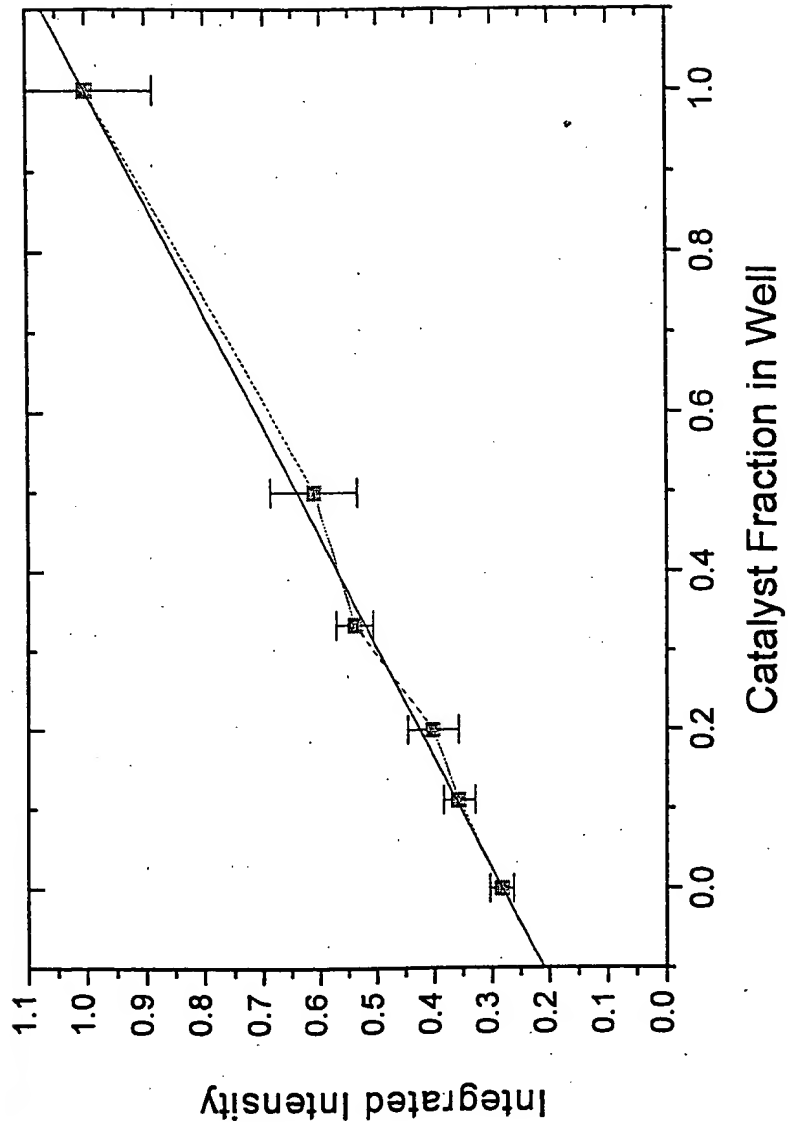
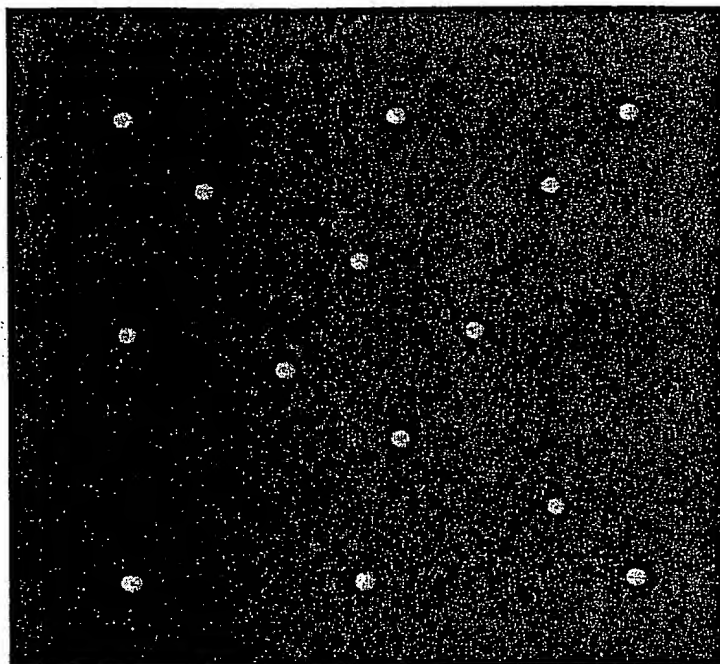
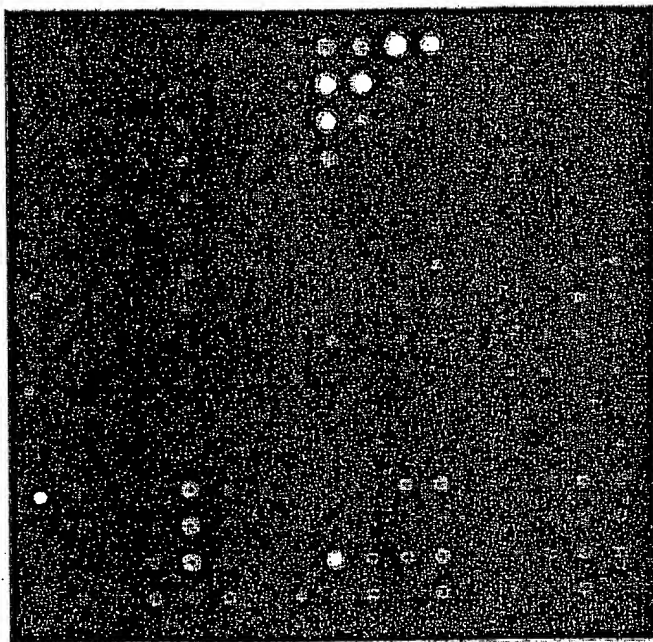
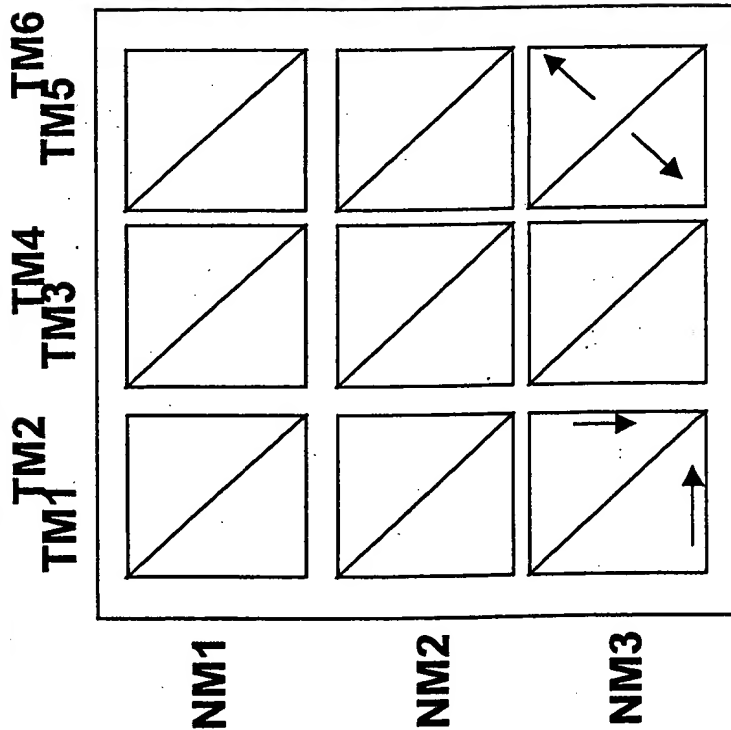


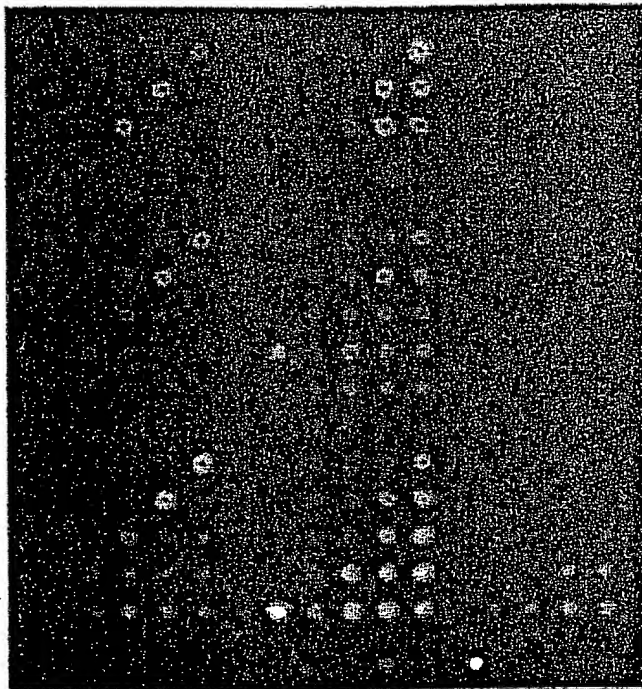
Fig. 20C



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Fig. 20 D



[illegible]

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Fig. 20 F

ZrO_2	SiO_2	Al_2O_3
TiO_2	SiO_2	Al_2O_3
TiO_2	$\alpha\text{-Al}_2\text{O}_3$	$\gamma\text{-Al}_2\text{O}_3$

